



Alabama's Green Economy:

Employment, Occupations, and Benefits

October 2011

Prepared for
Alabama Department of Industrial Relations
American Recovery and Reinvestment Act (ARRA)
Labor Market Information Improvement Grant

Prepared by
Center for Business and Economic Research
Institute for Social Science Research
THE UNIVERSITY OF ALABAMA



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Identifying the Green Economy

Why the Green Economy Matters

Just as sustainable development is development where the *needs of the present are met without compromising the ability of future generations to meet their own needs*, a sustainable economy meets the needs of the enterprise and its stakeholders today while protecting, sustaining, and enhancing the human and natural resources that will be needed in the future. Simply put, the economic vitality of our state is grounded in, and dependent upon, our people's well-being and the continued health of our state's rich and diverse natural resources. These tenets are exemplified in an economy that strives for "low carbon, resource efficient, and socially inclusive" goals.

When talking about economic activity, "green" refers to outputs and processes that are environmentally friendly or conserve natural resources; the terms sustainable and green can be used interchangeably. A green economy does not mean a subdued economy, rather one that relies on renewable resources and allows for increased investment in businesses that will be viable for years to come. The effects of the growth of our green economy include continued profits, increased job opportunities, and fair wages, as well as the health benefits of a cleaner natural environment for our workers, and for future generations of workers.

Regional Assessment of Green Jobs

The Brookings Institution created a database of green employment for the nation and its metro areas from Dun & Bradstreet data for 2010 for its recent study, *Sizing the Clean Economy*. This was done by identifying firms within two sets of SIC sectors classified as operating fully within the green economy: one by the Pew Charitable Trust and another by researchers at the University of California-Berkeley. Businesses from validated lists of clean economy firms not within these sectors were also added to the database. Employment from establishments of these firms involved in green production was allocated toward green employment estimates, based on the percentage of activity at these firms believed to be related to the green economy.

In creating these estimates, the report adhered to three principles. The first aims to include only jobs related to the clean production economy, or jobs that are involved in creating goods and services directly related to clean products and technologies. Therefore, jobs in such areas as advocacy and environmental education would be excluded. The other two guiding principles in creating the database were that jobs must provide an environmental benefit, and that jobs must add value to clean economy products or services.

According to the Brookings Institution report, a green economy is

"low carbon, resource efficient and socially inclusive. In a green economy, growth in income and employment should be driven by public and private investments that reduce carbon emissions and pollution, enhance energy and resource efficiency, and prevent the loss of biodiversity and ecosystem services."

Alabama is contributing to that green economy with a small, but growing number of jobs. The Brookings study estimates that Alabama had 38,182 green jobs in 2010, ranking 24th for the size of its green economy when compared to the 50 states and the District of Columbia. Those jobs constituted 1.9

percent of the state’s total employment. One of the most important findings of this report was that Alabama’s annual median wage of \$36,260 for a green collar job was \$3,352 more than the average median wage across all sectors.

The Brookings study found that the greatest numbers of jobs in Alabama’s green economy for 2010 were in Waste Management and Treatment, Nuclear Energy, Energy-saving Building Materials, Green Building Materials, and Sustainable Forestry Products. The fastest growing job segments in the green economy for the period of 2003 to 2010 were Professional Energy Services, Green Architecture and Construction Services, Battery Technologies, Remediation, and Recycling and Reuse.

Table G1. Alabama Clean Economy

Clean Economy Segment	Alabama Clean Economy Jobs by Segment, 2010	Percent of Alabama Total Employment	Percent of U.S. Total Employment
Conservation	2,062	0.110	0.243
Organic Food and Farming	651	0.035	0.100
Sustainable Forestry Products	2,765	0.148	0.047
Regulation and Compliance	480	0.026	0.109
Training	1	0.000	0.000
Appliances	73	0.004	0.028
Battery Technologies	43	0.002	0.012
Electric Vehicle Technologies	594	0.032	0.012
Energy-saving Building Materials	3,184	0.170	0.125
Green Architecture and Construction Services	1,039	0.056	0.043
HVAC and Building Control Systems	807	0.043	0.057
Lighting	60	0.003	0.011
Professional Energy Services	154	0.008	0.038
Public Mass Transit	2,753	0.147	0.270
Smart Grid	10	0.001	0.012
Water Efficient Products	768	0.041	0.010
Air and Water Purification Technologies	111	0.006	0.019
Green Building Materials	3,102	0.166	0.059
Green Chemical Products	82	0.004	0.017
Nuclear Energy	4,672	0.250	0.058
Pollution Reduction	42	0.002	0.008
Professional Environmental Services	1,696	0.091	0.109
Recycled-Content Products	1,577	0.084	0.046
Recycling and Reuse	1,967	0.105	0.100
Remediation	726	0.039	0.043
Waste Management and Treatment	5,590	0.299	0.297
Biofuels/Biomass	65	0.003	0.016
Geothermal	10	0.001	0.002
Hydropower	1,756	0.094	0.043
Waste-To-Energy	20	0.001	0.003

Source: *Sizing the Clean Economy*, Brookings Institution, July 2011.

Metropolitan Areas

The Brookings study aggregated its employment estimates by metro area and state for the entire country. Employment data for each metro and state are divided into 39 detailed segments of the clean economy, which are contained within five main categories: renewable energy; energy and resource efficiency; greenhouse gas reduction, environmental management and recycling; education and

compliance; and agricultural and natural resources conservation. These five categories are adapted directly from the Bureau of Labor Statistics. The size of the clean economy varies widely among Alabama metros, according to the study.

Anniston-Oxford

The largest and most concentrated green industry by employment in the Anniston-Oxford area is electric vehicle technologies, with 594 employees. Anniston-Oxford accounts for all of the state’s employment in this industry segment, and has a far higher proportion of employment in it than the United States as a whole, with a location quotient well over 1. Energy-saving building materials is another fairly significant green industry, employing 210 workers, or 6.6 percent of Alabama employment in this segment. In terms of raw employment, waste management and treatment, and public mass transit are the next largest green industries in the metro.

Table G2. Anniston-Oxford Clean Economy

Clean Economy Segment	MSA Clean Economy Jobs by Segment, 2010	Percent of MSA Total Employment	Percent of Alabama Segment	Segment's Percent of U.S. Total Employment
Electric Vehicle Technologies	594	1.22	100.00	0.01
Energy-saving Building Materials	210	0.43	6.60	0.12
Waste Management and Treatment	115	0.24	2.06	0.30
Public Mass Transit	77	0.16	2.80	0.27
Recycling and Reuse	57	0.12	2.90	0.10
Hydropower	55	0.11	3.13	0.04
Professional Environmental Services	21	0.04	1.24	0.11
Remediation	20	0.04	2.75	0.04
HVAC and Building Control Systems	13	0.03	1.61	0.06
Conservation	5	0.01	0.24	0.24

Auburn-Opelika

Hydropower is the most significant green industry in Auburn-Opelika, employing 127 workers and having a higher proportion of local employment than the United States as a whole. The second and third largest green industries in terms of workers, respectively, are conservation and professional environmental services. Despite employing just 42 workers, environmental remediation accounts for a higher proportion of the workforce in Auburn-Opelika than the nation as a whole as well.

Table G3. Auburn-Opelika Clean Economy

Clean Economy Segment	MSA Clean Economy Jobs by Segment, 2010	Percent of MSA Total Employment	Percent of Alabama Segment	Segment's Percent of U.S. Total Employment
Hydropower	127	0.24	7.23	0.04
Conservation	101	0.19	4.90	0.24
Professional Environmental Services	85	0.16	5.01	0.11
Recycling and Reuse	55	0.10	2.80	0.10
Remediation	42	0.08	5.79	0.04
Energy-saving Building Materials	35	0.07	1.10	0.12
Sustainable Forestry Products	25	0.05	0.90	0.05
Regulation and Compliance	10	0.02	2.08	0.11
Waste Management and Treatment	10	0.02	0.18	0.30
Public Mass Transit	7	0.01	0.25	0.27

Birmingham-Hoover

Waste management and treatment is the largest green industry in the Birmingham-Hoover metro, employing 1,513 workers. However, the next largest industries, professional environmental services and green architecture and construction, are more concentrated in Birmingham-Hoover than the nation. Green architecture and construction employs about 1,000 workers in Birmingham-Hoover, accounting for over 95 percent of the state’s employment in this sector. Energy-saving building materials, an industry linked to green architecture and construction, has a significant employment concentration in the area as well, with 769 employees. Organic food and farming and recycled-content materials also have higher proportions of local employment than the United States as a whole, employing 551 and 499 workers, respectively. The Birmingham-Hoover metro accounts for 84.6 percent of the state’s employment in organic food and farming.

Table G4. Birmingham-Hoover Clean Economy

Clean Economy Segment	MSA Clean Economy Jobs by Segment, 2010	Percent of MSA Total Employment	Percent of Alabama Segment	Segment's Percent of U.S. Total Employment
Waste Management and Treatment	1,513	0.31	27.07	0.30
Professional Environmental Services	1,105	0.23	65.15	0.11
Green Architecture and Construction Services	994	0.20	95.67	0.04
Public Mass Transit	858	0.18	31.17	0.27
Energy-saving Building Materials	769	0.16	24.15	0.12
Recycling and Reuse	580	0.12	29.49	0.10
Organic Food and Farming	551	0.11	84.64	0.10
Recycled-Content Products	499	0.10	31.64	0.05
Conservation	444	0.09	21.53	0.24
Hydropower	188	0.04	10.71	0.04
Sustainable Forestry Products	180	0.04	6.51	0.05
HVAC and Building Control Systems	155	0.03	19.21	0.06
Remediation	144	0.03	19.83	0.04
Regulation and Compliance	92	0.02	19.17	0.11
Green Building Materials	52	0.01	1.68	0.06
Battery Technologies	37	0.01	86.05	0.01
Air and Water Purification Technologies	34	0.01	30.63	0.02
Green Chemical Products	30	0.01	36.59	0.02
Pollution Reduction	26	0.01	61.90	0.01
Biofuels/Biomass	20	0.00	30.77	0.02
Appliances	18	0.00	24.66	0.03
Water Efficient Products	18	0.00	2.34	0.01
Professional Energy Services	9	0.00	5.84	0.04
Training	1	0.00	100.00	0.00

Decatur

Energy-saving building materials and hydropower are the two largest green industries by employment in the Decatur metro, and both have significant concentrations of employment compared to the nation. Energy-saving building materials employs 290, while hydropower employs 209. Recycling and reuse and waste management are also significant employers, with 183 and 165 workers, respectively. While few in number, the 10 employees in the smart grid industry in Decatur are the only workers in that industry in Alabama, according to the Brookings Institution.

Table G5. Decatur Clean Economy

Clean Economy Segment	MSA Clean Economy Jobs by Segment, 2010	Percent of MSA Total Employment	Percent of Alabama Segment	Segment's Percent of U.S. Total Employment
Energy-saving Building Materials	299	0.56	9.39	0.12
Hydropower	209	0.39	11.90	0.04
Recycling and Reuse	183	0.34	9.30	0.10
Waste Management and Treatment	165	0.31	2.95	0.30
Conservation	76	0.14	3.69	0.24
Regulation and Compliance	26	0.05	5.42	0.11
Smart Grid	10	0.02	100.00	0.01
Professional Environmental Services	6	0.01	0.35	0.11

Dothan

Nuclear energy is by far the largest green industry in Dothan, with 1,097 workers, nearly 2 percent of local employment. It is the only green industry with a significant concentration of employment compared to the nation. The next largest green industries are public mass transit and recycling and reuse.

Table G6. Dothan Clean Economy

Clean Economy Segment	MSA Clean Economy Jobs by Segment, 2010	Percent of MSA Total Employment	Percent of Alabama Segment	Segment's Percent of U.S. Total Employment
Nuclear Energy	1,097	1.92	23.48	0.06
Public Mass Transit	107	0.19	3.89	0.27
Recycling and Reuse	61	0.11	3.10	0.10
Energy-saving Building Materials	42	0.07	1.32	0.12
Waste Management and Treatment	35	0.06	0.63	0.30
Conservation	10	0.02	0.48	0.24
Battery Technologies	6	0.01	13.95	0.01
HVAC and Building Control Systems	5	0.01	0.62	0.06

Florence-Muscle Shoals

The largest green industries in the Florence-Muscle Shoals metro have significantly higher proportions of local employment than the United States as a whole. These include hydropower, with 366 workers; green building materials, with 362 employees; and green consumer products, with 317 employees. Florence-Muscle Shoals' green consumer products industry provides about 24 percent of the state's employment in that sector. The pollution reduction sector, which employs fewer than 10,000 nationwide, also has 16 employees in the Florence-Muscle Shoals area, with Birmingham-Hoover being the only other metro it has a presence in.

Table G7. Florence-Muscle Shoals Clean Economy

Clean Economy Segment	MSA Clean Economy Jobs by Segment, 2010	Percent of MSA Total Employment	Percent of Alabama Segment	Segment's Percent of U.S. Total Employment
Hydropower	366	0.67	20.84	0.04
Green Building Materials	362	0.66	11.67	0.06
Green Consumer Products	317	0.58	23.98	0.06
Recycling and Reuse	68	0.12	3.46	0.10
Conservation	67	0.12	3.25	0.24
Waste Management and Treatment	67	0.12	1.20	0.30
Public Mass Transit	51	0.09	1.85	0.27
Energy-saving Building Materials	25	0.05	0.79	0.12
Pollution Reduction	16	0.03	38.10	0.01
Biofuels/Biomass	9	0.02	13.85	0.02

Gadsden

Relatively few green industries are represented in the Gadsden area, with the largest being waste management and treatment, which has 251 employees. No other industry employs more than 60 clean economy workers in Gadsden; however, the 20 workers in the air and water purification technologies sector account for 18.02 percent of state employment in that sector.

Table G8. Gadsden Clean Economy

Clean Economy Segment	MSA Clean Economy Jobs by Segment, 2010	Percent of MSA Total Employment	Percent of Alabama Segment	Segment's Percent of U.S. Total Employment
Waste Management and Treatment	251	0.70	4.49	0.30
Public Mass Transit	51	0.14	1.85	0.27
Energy-saving Building Materials	48	0.13	1.51	0.12
Recycling and Reuse	47	0.13	2.39	0.10
Professional Environmental Services	30	0.08	1.77	0.11
Air and Water Purification Technologies	20	0.06	18.02	0.02
Conservation	15	0.04	0.73	0.24

Huntsville

Several green industries are well represented in the Huntsville metro area, with significant employment concentrations in nuclear energy, green consumer products, water efficient products, lighting, and waste-to-energy. Nuclear energy is by far the largest and most concentrated of these compared to the United States, with over 3,500 workers. Green consumer products is the second largest with 625 workers, and the water efficient products industry employs 250 workers. Waste-to-energy is a small green industry that employs about 3,300 nationwide; the 20 workers in the industry in Huntsville are the only workers in this sector in the state.

Table G9. Huntsville Clean Economy

Clean Economy Segment	MSA Clean Economy Jobs by Segment, 2010	Percent of MSA Total Employment	Percent of Alabama Segment	Segment's Percent of U.S. Total Employment
Nuclear Energy	3,575	1.72	76.52	0.06
Green Consumer Products	625	0.30	47.28	0.06
Waste Management and Treatment	395	0.19	7.07	0.30
Water Efficient Products	250	0.12	32.55	0.01
Professional Environmental Services	166	0.08	9.79	0.11
Professional Energy Services	125	0.06	81.17	0.04
Energy-saving Building Materials	106	0.05	3.33	0.12
Lighting	60	0.03	100.00	0.01
Recycling and Reuse	43	0.02	2.19	0.10
Remediation	28	0.01	3.86	0.04
Public Mass Transit	26	0.01	0.94	0.27
Waste-to-Energy	20	0.01	100.00	0.00
Conservation	17	0.01	0.82	0.24
Regulation and Compliance	5	0.00	1.04	0.11
HVAC and Building Control Systems	5	0.00	0.62	0.06

Mobile

Waste management and treatment and energy-saving building materials are the two largest green industries in Mobile, with 496 and 386 employees, respectively. However, the most concentrated industry compared to the nation as a whole is recycled content products, which has 227 employees. Environmental remediation is also significantly concentrated in the Mobile area, and with 166 workers, accounts for about 23 percent of the state's employment in the sector.

Table G10. Mobile Clean Economy

Clean Economy Segment	MSA Clean Economy Jobs by Segment, 2010	Percent of MSA Total Employment	Percent of Alabama Segment	Segment's Percent of U.S. Total Employment
Waste Management and Treatment	496	0.28	8.87	0.30
Energy-saving Building Materials	386	0.22	12.12	0.12
Recycling and Reuse	237	0.14	12.05	0.10
Recycled-Content Products	227	0.13	14.39	0.05
Remediation	166	0.09	22.87	0.04
Public Mass Transit	133	0.08	4.83	0.27
Professional Environmental Services	77	0.04	4.54	0.11
Regulation and Compliance	58	0.03	12.08	0.11
Conservation	50	0.03	2.42	0.24
Air and Water Purification Technologies	44	0.03	39.64	0.02
Green Chemical Products	35	0.02	42.68	0.02
Green Building Materials	22	0.01	0.71	0.06
HVAC and Building Control Systems	5	0.00	0.62	0.06

Montgomery

The Montgomery metro area has significant employment concentrations in several green industries. The largest green industry is waste management and treatment, with 1,176 workers. Montgomery also has a significant concentration of workers in conservation, due to its position as the center of government in the state, with 766 employees in this sector. HVAC and building control systems is the fourth largest green industry, with 609 workers, accounting for 75 percent of the industry's workers

statewide. In addition, the 500 local employees in water efficient products gives Montgomery a proportion of workers 30 times the proportion of U.S. workers in this industry.

Table G11. Montgomery Clean Economy

Clean Economy Segment	MSA Clean Economy Jobs by Segment, 2010	Percent of MSA Total Employment	Percent of Alabama Segment	Segment's Percent of U.S. Total Employment
Waste Management and Treatment	1,176	0.70	21.04	0.30
Public Mass Transit	775	0.46	28.15	0.27
Conservation	766	0.45	37.15	0.24
HVAC and Building Control Systems	609	0.36	75.46	0.06
Water Efficient Products	500	0.30	65.10	0.01
Hydropower	278	0.16	15.83	0.04
Regulation and Compliance	253	0.15	52.71	0.11
Professional Environmental Services	130	0.08	7.67	0.11
Recycling and Reuse	127	0.08	6.46	0.10
Organic Food and Farming	100	0.06	15.36	0.10
Energy-saving Building Materials	99	0.06	3.11	0.12
Appliances	55	0.03	75.34	0.03
Sustainable Forestry Products	18	0.01	0.65	0.05
Green Consumer Products	10	0.01	0.76	0.06
Biofuels/Biomass	7	0.00	10.77	0.02
Green Chemical Products	5	0.00	6.10	0.02

Tuscaloosa

The Tuscaloosa metro area is well represented in several green industry sectors. The largest and most concentrated compared to the nation is green building materials, with 900 employees. Energy-saving building materials and recycled content products are second and third in terms of employment, employing 336 and 207, respectively. Environmental remediation and hydropower both account for higher proportions of local employment than in the national economy, with 140 and 120 employees, respectively. Tuscaloosa also has the state's only workers in the geothermal sector, with 10 employees.

Table G12. Tuscaloosa Clean Economy

Clean Economy Segment	MSA Clean Economy Jobs by Segment, 2010	Percent of MSA Total Employment	Percent of Alabama Segment	Segment's Percent of U.S. Total Employment
Green Building Materials	900	0.96	29.01	0.06
Energy-saving Building Materials	336	0.36	10.55	0.12
Recycled-Content Products	207	0.22	13.13	0.05
Waste Management and Treatment	179	0.19	3.20	0.30
Remediation	140	0.15	19.28	0.04
Hydropower	120	0.13	6.83	0.04
Recycling and Reuse	110	0.12	5.59	0.10
Public Mass Transit	90	0.10	3.27	0.27
Conservation	66	0.07	3.20	0.24
Regulation and Compliance	36	0.04	7.50	0.11
Sustainable Forestry Products	33	0.04	1.19	0.05
Green Architecture and Construction Services	30	0.03	2.89	0.04
Professional Environmental Services	18	0.02	1.06	0.11
Biofuels/Biomass	16	0.02	24.62	0.02
Professional Energy Services	12	0.01	7.79	0.04
Geothermal	10	0.01	100.00	0.00

BLS Green Jobs Definition and Data Collection

Recognizing the increasing importance of green jobs to U.S. economic activity, the Bureau of Labor Statistics (BLS) recently studied issues surrounding how to define jobs associated with producing green goods and services. Green jobs can be grouped into two categories and a BLS survey will be administered for each category:

- Output: Jobs in businesses that produce goods or provide services benefiting the environment or conserving natural resources.
- Process: Jobs where workers' duties contribute to production processes that are more environmentally friendly or use fewer natural resources.

Activities on the output side generate goods and services that are sold to customers. These goods and services can be categorized into five major groups and the jobs allocated accordingly:

1. Energy from renewable sources
2. Energy efficiency
3. Pollution reduction and removal, greenhouse gas reduction, and recycling and reuse
4. Natural resources conservation
5. Environmental compliance, education and training, and public awareness.

On the green process side, workers research, develop, maintain, or utilize technologies that reduce their establishment's impact on the environment. They may also train other workers at their firm in these initiatives. Green practices and technologies fall into groups 1 to 4 above.

Based on these definitions, BLS is currently collecting data on green economic activity through the Quarterly Census of Employment and Wages (QCEW) and the Occupational Employment Statistics (OES) programs. Beginning in 2012, information on employment and wages by industry and occupation for green businesses will be provided at the national, regional, and state levels. These data will facilitate evaluation of policy initiatives and of labor market impacts from activities that contribute to environmental protection and natural resource conservation. North American Industry Classification System (NAICS) and Standard Occupational Classification (SOC) codes are being used for comparison of green job trends with total BLS employment and wage measures, although subcodes may be added for new green categories. A total of 333 six-digit NAICS industry codes have been identified as in scope for the green goods and services survey.

O*NET Identification of Green Jobs by Occupation

While BLS primarily focuses on identifying the impact of green activity on the economy as measured by employment and wages in jobs that fall within their definition, the National Center for O*NET Development is working to define the impact of the green economy on occupations and on their associated tasks, skills, and educational requirements. This research takes the impact of green down to the practical level of training and educating the current and future workforce to fill the jobs and perform the tasks that will result from a growing emphasis on environmental stewardship.

O*NET uses the following definition:

“The green economy encompasses the economic activity related to reducing the use of fossil fuels, decreasing pollution and greenhouse gas emissions, increasing the efficiency of energy usage, recycling materials, and developing and adopting renewable sources of energy.”

Growth and development of green activities and technologies will differentially affect the demand for existing occupations as well as the associated skill requirements. Furthermore, the “greening” of work will generate new occupations and new worker training needs. Bringing the impact of green activity down to this level can result in identifiable trends and needs that can inform workforce development programs at the state and national level.

Utilizing O*NET Standard Occupational Classification (SOC) codes, occupations impacted by the green economy can be divided into three groups:

Green Increased Demand Occupations: Green economic activities and technologies are considered likely to increase employment demand for these existing occupations, although the requirements of the job will not change significantly. This group includes 64 O*NET-SOC occupations.

Green Enhanced Skills Occupations: Although the basic purpose of these occupations is unchanged, the tasks, skills, and knowledge required to perform the work will change significantly. Employment demand may or may not increase in these 60 O*NET-SOC occupations.

Green New and Emerging (N&E) Occupations: Green economy activities and technologies will result in new occupations, with their associated tasks and educational requirements. While these occupations will be new to O*NET, they may have evolved from an existing industry. O*NET research identified 45 occupations in this category, with 46 more under consideration for inclusion.

Alabama employment and wages for the occupations in the first two groups are presented in the next sections. Occupations in the new and emerging category are listed, but data are not available at the state level for this group.

In research for the U.S. Department of Labor’s Office of Workforce Investment, the National Center for O*NET Development identified 12 major green economy sectors that categorize workplace activities:

- Renewable Energy Generation
- Transportation
- Energy Efficiency
- Green Construction
- Energy Trading
- Energy and Carbon Capture and Storage
- Research, Design, and Consulting Services
- Environment Protection
- Agriculture and Forestry
- Manufacturing
- Recycling and Waste Reduction
- Governmental and Regulatory Administration

This breakdown allows for more detailed analysis of the effects of the green economy on occupations by industry or type of activity. The examination of green occupations by green sector facilitated the identification of new green tasks associated with the various occupations. For green enhanced skills occupations, O*NET identified 257 new green tasks as well as 177 existing green tasks. For the 45 new and emerging green occupations, a total of 196 new and 113 existing green tasks were found.

Alabama Green Increased Demand Occupations

The May 2010 Occupational Employment Survey (OES) by the Bureau of Labor Statistics provides Alabama employment and mean annual salary estimates for 61 occupational codes (SOC) that fall within the O*NET grouping of green increased demand occupations. Although we are only interested in the jobs within each occupational code that are involved in green activity, Table G13 below contains data for all Alabama employment within each SOC. Currently, there is no way to know what percent of employees in a particular occupation are contributing to the green economy. Also, some of these occupational categories are broader than the subcode selected by O*NET. Still, these data give an idea of the potential scope of occupations where additional workers could need to be trained to fulfill the needs of green businesses.

The 61 occupations that are considered by O*NET as likely to see more hiring due to increasing green economic activity are concentrated in industrial and skilled trades, conservation, transportation, and production. Only two of these occupational groups—Environmental Scientists and Specialists and Hydrologists—require a Master’s degree, while 12 want at least a Bachelor’s degree, and another eight expect an Associate’s degree or postsecondary vocational training. The educational requirement for 39 (63.9 percent) of the 61 categories is on-the-job training only.

According to the May 2010 OES data for Alabama, an estimated 221,100 residents were employed in these 61 occupations in 2010, or 12.2 percent of the state’s 1,807,480 workers. Salaries in green increased demand occupations ranged from just under \$23,000 for helpers of installation, maintenance, and repair workers and of carpenters and for hand laborers and freight, stock, and material movers up to \$114,240 for Natural Sciences Managers. These are often not high-paying jobs; mean annual salaries for 23 green increased demand occupations fell below the Alabama average of \$38,590 in 2010.

Based on current projections from the Alabama Department of Industrial Relations (ADIR) for the 2008 to 2018 period presented in the *State of the Alabama Workforce Report V*, these 61 occupations could see 28,740 new jobs created over the 10 years, a 13.0 percent gain. The largest numbers of jobs would be for team assemblers (7,780) and customer service representatives (5,390).

Analysis of job trends finds three of these 61 occupations—Industrial Engineers; Software Developers, Systems Software; and Welders, Cutters, Solderers, and Brazers—among the projected top 40 fast-growing occupations through 2018, while five—Customer Service Representatives; Railroad Conductors and Yardmasters; Software Developers, Systems Software; Welders, Cutters, Solderers, and Brazers; and Team Assemblers—are among the top 41 high-demand occupations. However, the number of Alabama jobs in 10 of these occupations is expected to decline over the period, with contractions of more than 10 percent in employment of Chemical Plant and System Operators and Electrical and Electronic Equipment Assemblers, while employment is projected to be flat in five others. Natural Sciences Managers and Chemical Engineers are included in the list of the state’s 50 highest earning occupations.

**Table G13. Green Increased Demand Occupations
Alabama Employment and Wages, 2010**

O*NET-SOC 2010 Code	O*NET-SOC 2010 Title	Employment	Mean Annual Salary (\$)
45-2011.00	Agricultural Inspectors	n.a.	45,360
17-3011.01	Architectural and Civil Drafters*	1,210	40,680
47-2011.00	Boilermakers	590	47,600
53-3021.00	Bus Drivers, Transit and Intercity	1,770	23,720
13-1021.00	Buyers and Purchasing Agents, Farm Products	130	54,770
47-2051.00	Cement Masons and Concrete Finishers	2,170	30,620
17-2041.00	Chemical Engineers	340	87,530
51-9011.00	Chemical Equipment Operators and Tenders	1,030	50,630
51-8091.00	Chemical Plant and System Operators	1,050	54,130
19-4031.00	Chemical Technicians	1,210	40,640
19-2031.00	Chemists	570	69,020
27-1021.00	Commercial and Industrial Designers	160	58,860
51-4011.00	Computer-Controlled Machine Tool Operators, Metal and Plastic	2,570	32,500
47-2031.00	Carpenters	8,310	32,370
43-4051.00	Customer Service Representatives	27,890	28,390
51-4031.00	Cutting, Punching, and Press Machine Setters, Operators, and Tenders, Metal and Plastic	4,850	30,300
43-5032.00	Dispatchers, Except Police, Fire, and Ambulance	2,350	33,910
51-4032.00	Drilling and Boring Machine Tool Setters, Operators, and Tenders, Metal and Plastic	350	31,580
51-2022.00	Electrical and Electronic Equipment Assemblers	1,730	28,420
49-2094.00	Electrical and Electronics Repairers, Commercial and Industrial Equipment	1,320	51,650
49-9051.00	Electrical Power-Line Installers and Repairers	3,180	52,160
47-2111.00	Electricians	8,070	41,030
17-3023.01	Electrical and Electronics Engineering Technicians*	1,860	53,480
51-2031.00	Engine and Other Machine Assemblers	1,570	34,270
19-2041.00	Environmental Scientists and Specialists, Including Health	1,010	58,020
25-9021.00	Farm and Home Management Advisors	490	49,830
45-1011.05,07	First-Line Supervisors of Farming, Fishing, and Forestry Workers*	410	45,140
49-1011.00	First-Line Supervisors of Mechanics, Installers, and Repairers	7,970	56,850
51-1011.00	First-Line Supervisors of Production and Operating Workers	11,690	53,350
33-3031.00	Fish and Game Wardens	220	47,870
19-4093.00	Forest and Conservation Technicians	300	45,940
45-4011.00	Forest and Conservation Workers	n.a.	n.a.
47-3012.00	Helpers--Carpenters	1,250	22,890
49-9098.00	Helpers--Installation, Maintenance, and Repair Workers	3,970	21,830
19-2043.00	Hydrologists	n.a.	n.a.
17-2112.00	Industrial Engineers	3,190	75,750
49-9041.00	Industrial Machinery Mechanics	8,520	47,290
11-3051.00	Industrial Production Managers	2,180	85,770
17-2111.01	Health and Safety Engineers, except Mining*	440	75,150
53-7051.00	Industrial Truck and Tractor Operators	9,910	30,280
47-2131.00	Insulation Workers, Floor, Ceiling, and Wall	390	32,670
53-7062.00	Laborers and Freight, Stock, and Material Movers, Hand	33,600	22,960
53-4011.00	Locomotive Engineers	780	48,050
19-2032.00	Materials Scientists	50	72,350
49-9044.00	Millwrights	1,120	43,990
51-9023.00	Mixing and Blending Machine Setters, Operators, and Tenders	1,730	36,160

11-9121.00	Natural Sciences Managers	150	114,240
29-9011.00	Occupational Health and Safety Specialists	740	66,930
47-2073.00	Operating Engineers and Other Construction Equipment Operators	6,460	33,440
51-8012.00	Power Distributors and Dispatchers	220	70,230
43-5061.00	Production, Planning, and Expediting Clerks	2,510	42,030
47-4061.00	Rail-Track Laying and Maintenance Equipment Operators	150	31,810
53-4031.00	Railroad Conductors and Yardmasters	810	46,520
49-9021.02	Heating, Air Conditioning, and Refrigeration Mechanics and Installers	3,790	36,800
15-1133.00	Software Developers, Systems Software	4,110	88,000
51-4121.06.07	Welders, Cutters, Solderers, and Brazers	7,780	34,850
51-8021.00	Stationary Engineers and Boiler Operators	410	47,120
47-2221.00	Structural Iron and Steel Workers	1,310	37,470
51-2041.00	Structural Metal Fabricators and Fitters	2,300	32,350
51-2092.00	Team Assemblers	26,720	36,120
19-1023.00	Zoologists and Wildlife Biologists	140	57,680

* While employment and wages are for the occupational category listed in the Description, only the portion indicated by the SOC Code is included in the list of Green Increased Demand Occupations.

Source: O*NET Resource Center and Bureau of Labor Statistics, Occupational Employment Statistics.

Alabama Green Enhanced Skills Occupations

Analysis of the May 2010 OES data for the 59 occupational codes that fall within the O*NET grouping of green enhanced skills occupations gives an idea of the potential scope of occupations where training in new green skills will be necessary. Although we are only interested in the jobs within each occupational code that are involved in green activity, Table G14 below contains data for all Alabama employment within each SOC. The 59 occupations include research and technical jobs in engineering and science, as well as jobs in transportation, construction, manufacturing, and utilities. Selected occupations in finance, sales, and communications are also on the list. Alabama employment in these 59 occupations in 2010 was an estimated 182,790—10.1 percent of the state’s 1,807,480 workers. Mean annual salaries in these industries ranged from just over \$113,600 for Aerospace Engineers and Architectural and Engineering Managers down to \$25,000 for Construction Laborers. Of the 59 occupations, 37, or 62.7 percent, paid more than the state average wage across all occupations of \$38,590.

Analysis of job growth projections for these 59 green enhanced skills occupations from ADIR indicates that there will be a possible 23,300 jobs created between 2008 and 2018, a 12.7 percent increase. Four of the top 41 high-demand occupations identified in the *State of the Alabama Workforce Report V* are in this category: Construction Managers, Mechanical Engineers, Personal Financial Advisors, and Transportation Inspectors. In addition, three occupations—Environmental Engineering Technicians, Personal Financial Advisors, and Transportation Inspectors—are among the 40 fast-growing occupations listed in the study. And six of these 59 occupations are among Alabama’s highest earning. These include Aerospace Engineers; Architectural and Engineering Managers; Electronics Engineers, Except Computer; General and Operations Managers; Marketing Managers; and Personal Financial Advisors.

While only two of the 59 green enhanced skills occupations require a Master’s degree, 23 require at least a Bachelor’s degree, and 12 expect hires to have an Associate’s degree or postsecondary vocational training. But whatever their educational background, all employees in these occupations working in businesses engaged in green activity are expected to need to learn new skills to meet the challenges of performing tasks in a more environmentally friendly way.

**Table G14. Green Enhanced Skills Occupations
Alabama Employment and Wages, 2010**

O*NET-SOC 2010 Code	O*NET-SOC 2010 Title	Employment	Mean Annual Salary (\$)
17-2011.00	Aerospace Engineers	3,010	113,630
19-4011.01	Agricultural and Food Science Technicians*	140	42,490
51-2011.00	Aircraft Structure, Surfaces, Rigging, and Systems Assemblers	1,830	33,120
23-1022.00	Arbitrators, Mediators, and Conciliators	140	36,690
17-1011.00	Architects, Except Landscape and Naval	1,020	76,090
11-9041.00	Architectural and Engineering Managers	2,510	113,710
19-2021.00	Atmospheric and Space Scientists	160	76,160
49-3023.02	Automotive Service Technicians and Mechanics*	7,380	34,320
49-3031.00	Bus and Truck Mechanics and Diesel Engine Specialists	4,650	37,350
17-2051.00	Civil Engineers	3,730	76,890
47-4011.00	Construction and Building Inspectors	1,660	50,270
47-2061.00	Construction Laborers	10,650	25,000
11-9021.00	Construction Managers	2,010	82,900
47-5041.00	Continuous Mining Machine Operators	410	37,940
17-3023.03	Electrical and Electronics Engineering Technicians*	1,860	53,480
17-2071.00	Electrical Engineers	4,000	85,080
17-3024.00	Electro-Mechanical Technicians	70	44,120
17-2072.00	Electronics Engineers, Except Computer	1,750	92,710
17-3025.00	Environmental Engineering Technicians	460	37,650
17-2081.00	Environmental Engineers	1,000	100,540
19-4091.00	Environmental Science and Protection Technicians, Including Health	330	39,900
11-9013.02	Farm and Ranch and Other Agricultural Managers*	30	75,490
13-2051.00	Financial Analysts	500	71,430
11-1021.00	General and Operations Managers	30,870	102,690
19-4041.01,.02	Geological and Petroleum Technicians*	100	50,310
19-2042.00	Geoscientists, Except Hydrologists and Geographers	200	65,180
47-4041.00	Hazardous Materials Removal Workers	380	30,710
49-9021.01	Heating, Air Conditioning, and Refrigeration Mechanics and Installers*	3,790	36,800
53-3032.00	Heavy and Tractor-Trailer Truck Drivers	29,080	37,930
17-3026.00	Industrial Engineering Technicians	830	49,040
51-9061.00	Inspectors, Testers, Sorters, Samplers, and Weighers	7,010	31,200
17-1012.00	Landscape Architects	n.a.	54,810
51-4041.00	Machinists	5,910	36,310
49-9071.00	Maintenance and Repair Workers, General	15,900	34,980
11-2021.00	Marketing Managers	730	108,360
17-2141.00	Mechanical Engineers	3,160	80,150
17-2161.00	Nuclear Engineers	n.a.	n.a.
19-4051.01	Nuclear Equipment Operation Technicians	n.a.	n.a.
51-8011.00	Nuclear Power Reactor Operators	n.a.	n.a.
29-9012.00	Occupational Health and Safety Technicians	120	52,670
13-2052.00	Personal Financial Advisors	1,320	97,230
47-2152.00	Plumbers, Pipe Fitters, and Steamfitters	4,970	39,860
51-8013.00	Power Plant Operators	1,150	58,250
27-3031.00	Public Relations Specialists	3,260	45,630
53-7081.00	Refuse and Recyclable Material Collectors	2,900	27,890
27-3022.00	Reporters and Correspondents	490	32,170

47-2181.00	Roofers	1,100	30,020
41-4011.00	Sales Representatives, Wholesale and Manufacturing, Technical and Scientific Products	3,320	83,880
51-9012.00	Separating, Filtering, Clarifying, Precipitating, and Still Machine Setters, Operators, and Tenders	480	44,320
47-5013.00	Service Unit Operators, Oil, Gas, and Mining	80	34,660
47-2211.00	Sheet Metal Workers	2,610	35,240
43-5071.00	Shipping, Receiving, and Traffic Clerks	8,390	28,110
19-1013.00	Soil and Plant Scientists	100	71,610
19-1031.00	Conservation Scientists	120	70,840
11-3071.00	Transportation, Storage, and Distribution Managers	880	79,720
13-1151.00	Training and Development Specialists	2,390	51,870
53-6051.07	Transportation Inspectors	470	65,530
19-3051.00	Urban and Regional Planners	330	54,280
13-1022.00	Wholesale and Retail Buyers, Except Farm Products	1,050	49,400

* While employment and wages are for the occupational category listed in the description, only the portion indicated by the SOC Code is included in the list of Green Enhanced Skills Occupations.

Source: O*NET Resource Center and Bureau of Labor Statistics, Occupational Employment Statistics.

Green New and Emerging Occupations

The green new and emerging occupations are identified in Table G15. The 45 occupations first identified as well as the 46 considered subsequently are included in the table. Since these occupations are new to O*NET, no employment and wage estimates are available. Jobs are expected to increase in these fields as the green economy expands and attention to the skills required and tasks embodied in these occupations can help inform workforce development and educational programs.

Table G15. Green New and Emerging Occupations

O*NET-SOC 2010 Code	O*NET-SOC 2010 Title
n.a.	Air Quality Control Specialists
17-3027.01	Automotive Engineering Technicians
17-2141.02	Automotive Engineers
17-2199.01	Biochemical Engineers
51-8099.01	Biofuels Processing Technicians
11-3051.03	Biofuels Production Managers
11-9041.01	Biofuels/Biodiesel Technology and Product Development Managers
n.a.	Biomass Plant Engineers
51-8099.03	Biomass Plant Technicians
11-3051.04	Biomass Power Plant Managers
11-9199.11	Brownfield Redevelopment Specialists and Site Managers
n.a.	Carbon Capture and Sequestration Systems Installers
n.a.	Carbon Credit Traders
n.a.	Carbon Trading Analysts
11-1011.03	Chief Sustainability Officers
19-2041.01	Climate Change Analysts
11-9199.02	Compliance Managers
17-3029.02	Electrical Engineering Technologists
17-3029.03	Electromechanical Engineering Technologists
17-3029.04	Electronics Engineering Technologists
13-1199.01	Energy Auditors
41-3099.01	Energy Brokers

17-2199.03	Energy Engineers
n.a.	Environmental Certification Specialists
19-3011.01	Environmental Economists
19-2041.02	Environmental Restoration Planners
13-2099.01	Financial Quantitative Analysts
43-5011.01	Freight Forwarders
17-2141.01	Fuel Cell Engineers
17-3029.10	Fuel Cell Technicians
15-1199.05	Geographic Information Systems Technicians
15-1199.04	Geospatial Information Scientists and Technologists
11-3051.02	Geothermal Production Managers
49-9099.01	Geothermal Technicians
11-2011.01	Green Marketers
n.a.	Greenhouse Gas Emissions Permitting Consultants
n.a.	Greenhouse Gas Emissions Report Verifiers
51-8099.04	Hydroelectric Plant Technicians
11-3051.06	Hydroelectric Production Managers
19-2041.03	Industrial Ecologists
17-3029.05	Industrial Engineering Technologists
13-2099.03	Investment Underwriters
13-1081.02	Logistics Analysts
13-1081.01	Logistics Engineers
11-3071.03	Logistics Managers
17-3029.06	Manufacturing Engineering Technologists
17-2199.04	Manufacturing Engineers
17-3029.09	Manufacturing Production Technicians
17-3029.07	Mechanical Engineering Technologists
17-2199.05	Mechatronics Engineers
n.a.	Methane Capturing System Engineers/Installers/Project Managers
11-3051.05	Methane/Landfill Gas Collection System Operators
51-8099.02	Methane/Landfill Gas Generation System Technicians
17-2199.06	Microsystems Engineers
17-2199.09	Nanosystems Engineers
17-3029.12	Nanotechnology Engineering Technicians
17-3029.11	Nanotechnology Engineering Technologists
17-2199.07	Photonics Engineers
17-3029.08	Photonics Technicians
19-4099.02	Precision Agriculture Technicians
51-9199.01	Recycling and Reclamation Workers
53-1021.01	Recycling Coordinators
11-9199.01	Regulatory Affairs Managers
13-1041.07	Regulatory Affairs Specialists
19-2099.01	Remote Sensing Scientists and Technologists
19-4099.03	Remote Sensing Technicians
13-2099.02	Risk Management Specialists
17-2199.08	Robotics Engineers
17-3024.01	Robotics Technicians
41-3031.03	Securities and Commodities Traders
47-1011.03	Solar Energy Installation Managers
17-2199.11	Solar Energy Systems Engineers
47-2231.00	Solar Photovoltaic Installers
n.a.	Solar Power Plant Technicians
41-4011.07	Solar Sales Representatives and Assessors
47-4099.02	Solar Thermal Installers and Technicians

n.a.	Solar Thermoelectric Plant/Concentrating Thermal Power (CSP) Plant Operators
11-9199.04	Supply Chain Managers
13-1199.05	Sustainability Specialists
n.a.	Sustainable Design Specialists
n.a.	Testing Adjusting and Balancing TAB Technicians
17-2051.01	Transportation Engineers
19-3099.01	Transportation Planners
17-2199.02	Validation Engineers
11-9121.02	Water Resource Specialists
17-2081.01	Water/Wastewater Engineers
47-4099.03	Weatherization Installers and Technicians
17-2199.10	Wind Energy Engineers
11-9199.09	Wind Energy Operations Managers
11-9199.10	Wind Energy Project Managers
49-9081.00	Wind Turbine Service Technicians

Source: O*NET Resource Center and Bureau of Labor Statistics, Occupational Employment Statistics.

Alabama's Green Economy

Means of measuring the green economy have not been universally defined, in part because it pervades almost every sector, and has the potential to grow in any industry. Based on generally accepted classifications, this report defines Alabama's green economy as industries that provide services or products that contribute to renewable energy, increased energy efficiency, clean transportation and fuels, agriculture and natural resource conservation, and pollution prevention or environmental cleanup.

Alabama is host to multiple programs with the goal of jumpstarting various sectors of the green economy. Alabama Green Jobs Alliance is a collaborative effort of businesses and organizations around the state that offers education, green jobs training, job placement, and career development. Another example is the Alabama E3's (Economy, Energy, Environment) work for the auto manufacturing industry. Their initiative coordinates federal, state, and local technical assistance programs for the purpose of promoting sustainable manufacturing and growth, maximizing energy efficiency, and reducing pollution and greenhouse gas emissions.

The Alabama Clean Fuels Coalition (ACFC) offers incentives and hosts workshops for the purpose of bringing alternative fuels and advanced technology fuels and vehicles to Alabama's cities and towns. The forestry industry is one of the leaders in sustainable practices in the state with programs like the Sustainable Forestry Initiative and Professional Logging Manager, which are dedicated to reforestation, sustainable management, conservation, diversity and other sustainable goals. Development of programs like these provides the solid base upon which Alabama's green economy can grow.

Examples of Green Companies in Alabama

Brasfield & Gorrie LLC,
Birmingham,
(Green Architecture and Construction):
LEED design and construction.

CFD Research Corporation,
Huntsville,
(Clean Energy):
Designs and tests fuel cells.

HudsonAlpha Institute,
Huntsville,
(Biotechnology):
Research on the production of biofuels for jet engines.

Kohler Co,
Huntsville,
(Water Efficient Products):
Designs sustainable home products.

North American Bus Industries,
Anniston,
(Electric Vehicle Technologies):
Produces hybrid-electric and Compressed Natural Gas propulsion systems.

SCA Tissue North America,
Barton,
(Recycled Goods):
Manufactures paper goods from 100 percent recycled materials.

Sun Plans,
Citronelle,
(Environmentally Friendly Production):
Designs energy-efficient and passive solar homes.

Alabama Employee Benefits and Green Activity Survey

This study represents a collaborative effort between the Alabama Department of Industrial Relations (ADIR) and The University of Alabama's Center for Business and Economic Research (CBER) and Institute for Social Science Research (ISSR) to assess the presence of green economic activity in the state and to explore the future of Alabama's expanding green industry. Employers throughout the state were surveyed to measure employee benefits and to determine the extent to which they are incorporating green activities into their daily business practices. This report focuses on the subset of firms completing the survey that self-identified as participating in the green economy.

Overview

The sections below summarize the survey results. Data on Alabama's green economy are presented first. Analyses of benefits provided by green employers that follow are organized by five categories:

1. Insurance
2. Paid leave
3. Retirement
4. Miscellaneous benefits
5. Cost of benefits
6. Benefits comparison.

Each section is divided into subsections as described in the survey questionnaire. Findings for each subsection are further summarized by industry, Workforce Development Region, and by business size.

Businesses were classified into 10 industry categories:

- Natural Resources & Mining
- Construction
- Manufacturing
- Trade, Transportation, & Utilities
- Information
- Financial Activities
- Professional & Business Services
- Education & Health Services
- Leisure & Hospitality Services
- Other Services

Businesses were identified by their Workforce Development Region. The 10 regions designated by the Alabama Office of Workforce Development are shown on the map.

Businesses surveyed were also categorized by number of employees:

- | | |
|-----------|--------------|
| 1 to 4; | 20 to 49; |
| 5 to 9; | 50 to 99; |
| 10 to 19; | 100 or more. |



The data used to prepare this report were from a sample of firms and were collected by a mail-out survey that could also be completed online. When data from such a survey are categorized, the resulting summary statistics can suffer from sampling error. Sampling errors in this study occur when a firm in a category over- or underrepresents the category's true characteristics.

Defining Alabama's Green Economy

Without any universal way to define green business activity and practices, existing research was examined to provide detailed definitions to Alabama businesses completing the benefits and green activity survey. Categories of green practices used in the survey include:

Renewable Energy –

Produce energy that comes from natural resources such as sunlight, wind, rain, tides, and geothermal heat which can be naturally replenished (does not include fossil fuels).

Energy Efficiency –

Develop methods that use less energy to provide the same level of energy service.

Clean Transportation & Fuels –

Produce or utilize any means of transport with low impact on the environment. Use of fuels that occur naturally that can be used in place of fossil fuels that will produce less pollution.

Agriculture & Natural Resource Conservation –

Utilize reclamation processes to sustain productive and viable lands. Improve, protect, restore, and enhance natural resources through soil surveying and replanting.

Pollution Prevention and Environmental cleanup –

Utilize improvement processes that reduce sources of pollution, minimize waste, or recycle onsite. Process, remove solid, liquid, and hazardous waste materials to diminish environmental concerns.

Other Contributions to Green Economy –

Utilize daily business practices that contribute to energy efficiency, clean transportation, and environmental cleanup.

Realizing that the green economy is pervasive and not all green occupations fit into these categories, a category of “None of the above” was made available in the survey.

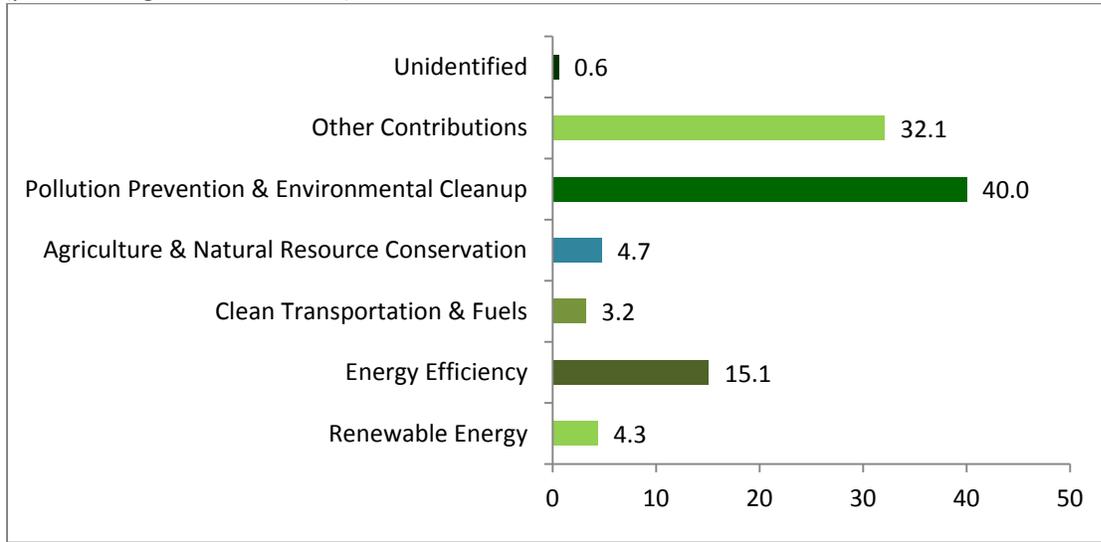
Composition of Alabama's Green Economy

Of the 2,217 firms completing the employee benefits and green activity survey in mid-2011, 530 or 23.9 percent indicated that they either produce products or services that are considered green or engage in daily business practices that contribute to the green economy. From the list above, these companies selected the one category that best describes their green activities.

Most participants in the state's green economy have modified their business activities to be more environmentally friendly. Survey results show 40 percent of Alabama businesses are contributing by preventing and reducing pollution, minimizing waste, recycling onsite, and/or processing and removing waste materials to reduce their impact on the environment. Another 32.1 percent of firms are involved in green activity that falls into the category of Other Contributions. These businesses embrace environmentally friendly practices that could involve initiatives in the areas of energy efficiency, clean

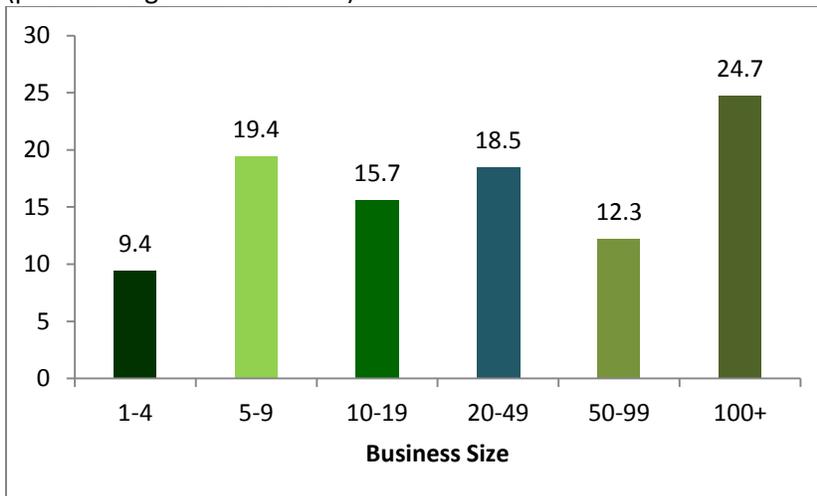
transportation, and environmental cleanup. For 15.1 percent of green activity firms, the focus is on developing methods to improve energy efficiency. Just 12.2 percent of the state’s green activity is directed toward production of goods or provision of services that benefit the environment or natural resource conservation. These include 4.3 percent of green activity businesses producing renewable energy, 3.2 percent working in the clean transportation and fuels area, and 4.7 percent engaged in sustainable agriculture and natural resource enhancement.

Figure G1. Alabama Businesses by Category of Green Activity
(percent of green businesses)



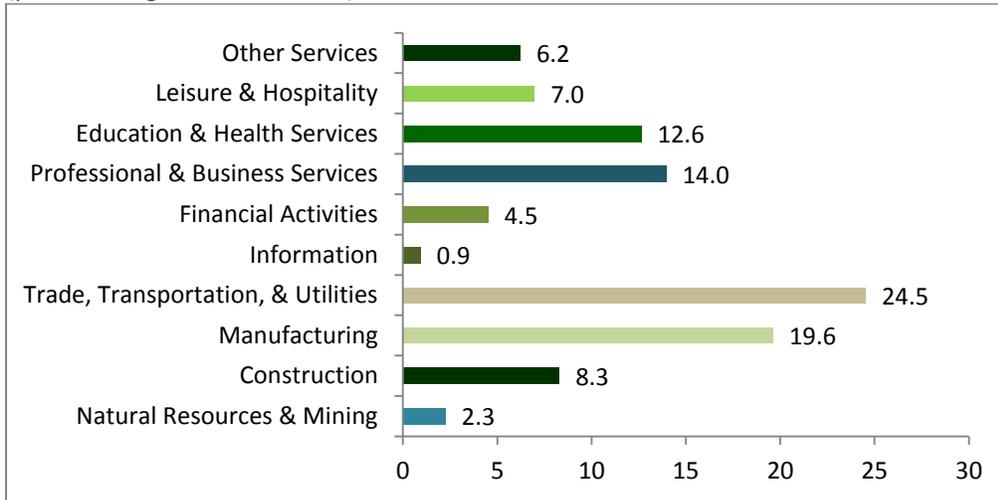
Alabama’s largest firms employing 100 or more comprise almost 25 percent of businesses responding that they participate in the green economy. In contrast, only 9.4 percent of green activity survey respondents have fewer than 5 employees. Just over 12 percent of firms embracing production or processes that benefit the environment or conserve natural resources employ 50 to 99, while 19.4 percent have 5 to 9 workers.

Figure G2. Green Activity Businesses by Employment
(percent of green businesses)



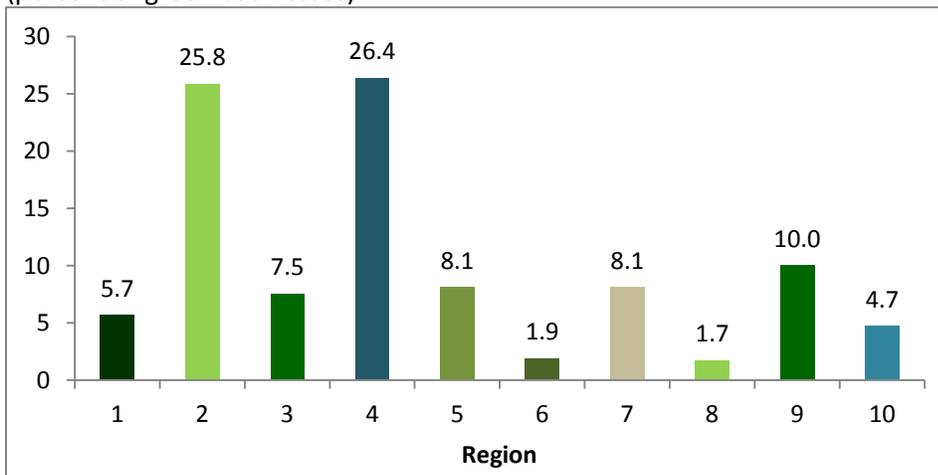
Green activity occurs in every sector of Alabama’s economy. Based on the survey, the largest share of companies engaging in green business practices are in trade, transportation, and utilities, with 24.5 percent of the total of 530, followed by manufacturing at 19.6 percent. Only a small part of the state’s green economy comes from the information; natural resources and mining; and financial activities sectors, which combined account for 7.7 percent of all green activity firms.

Figure G3. Green Activity Businesses by Industry
(percent of green businesses)



Due mainly to the large scale of the economies of Workforce Development Region (WDR) 2 (including the Huntsville and Decatur metros) and WDR 4 (the Birmingham-Hoover metro, except Bibb County), these two areas combined house over 52 percent of businesses engaged in green activity statewide. Above-average shares of regional businesses that utilize green business practices also contribute to this dominance.

Figure G4. Green Activity Businesses by Workforce Development Region
(percent of green businesses)

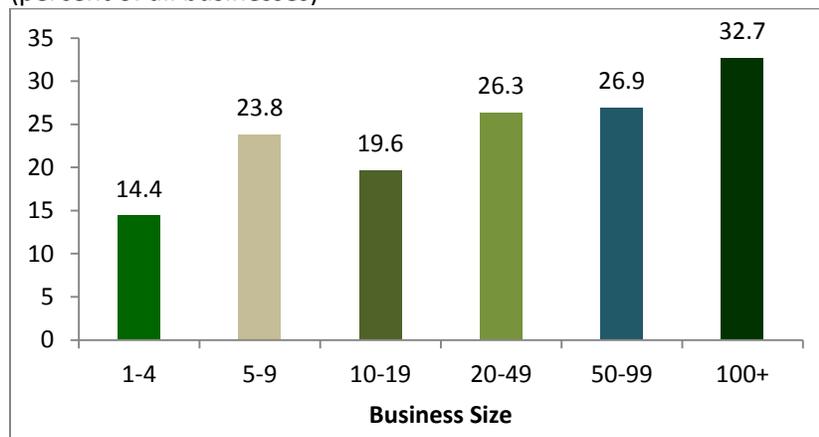


Penetration of Green Business Activity and Practices

Another way to examine the participation of businesses in Alabama’s green economy is to look at the percentage of the total respondent pool of 2,217 businesses that engage in green activity, broken down by firm size, industry, and Workforce Development Region. This will help inform programs that seek to increase green activity, identifying both successes and challenges in this arena.

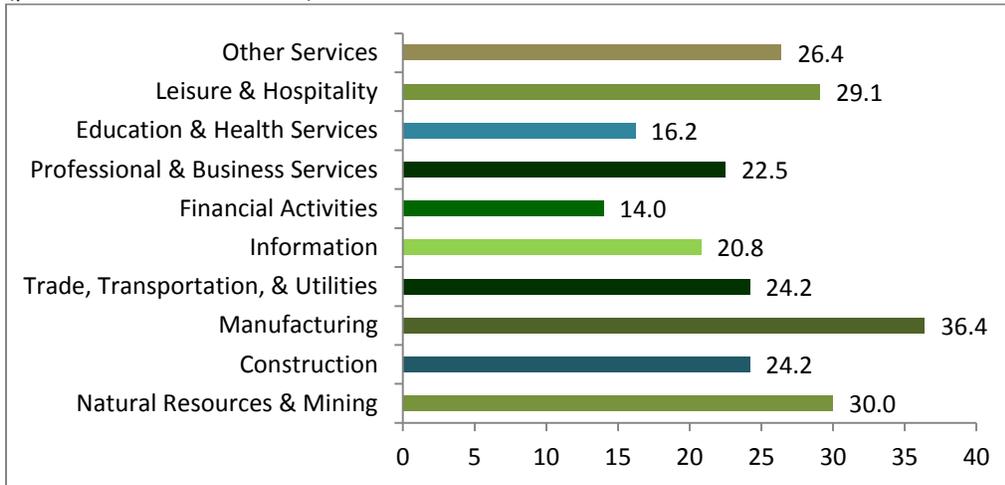
Businesses with at least 20 employees are more likely than smaller firms to produce green products or services and/or engage in business practices that contribute to the green economy. Over 26 percent of all businesses employing 20 to 49 or 50 to 99 identify themselves as green activity participants. This share rises to 32.7 percent for the state’s large firms, those with 100 or more employees. Among firms with fewer than 20 workers, businesses employing 5 to 9 are the most likely to be part of the green economy. While the goal should be to have all businesses embrace practices and/or generate products or services that contribute to environmental protection and resource conservation, strong participation among larger firms is a good start as their efforts have a substantial impact due to their size.

Figure G5. Share of Businesses with Green Activity by Employment
(percent of all businesses)



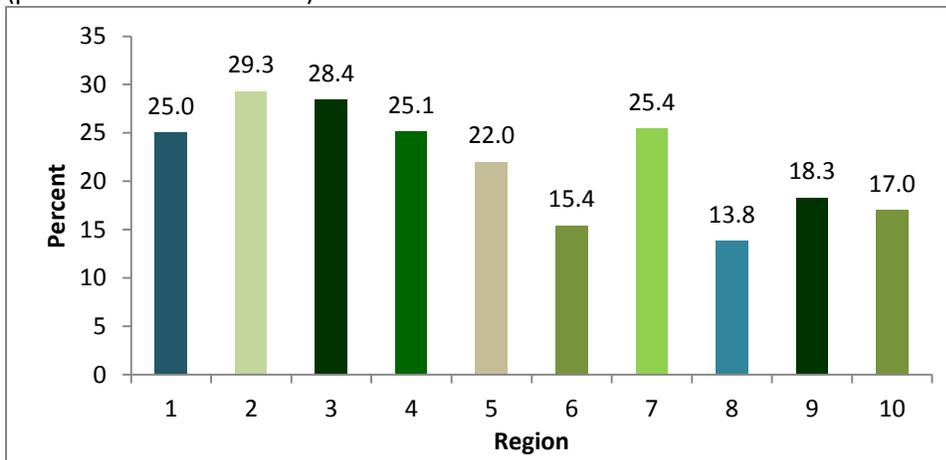
The state’s manufacturing industry is the most heavily involved in the green economy, with 36.4 percent of manufacturing firms incorporating green practices into their production and/or daily activity. Natural resources and mining is another area that is substantially green—30 percent of respondents indicate some level of environmentally conscious practices. At 29.1 percent, participation of businesses in leisure and hospitality services in green activity is also relatively strong. However, firms in the financial services industry and in education and health services are the least likely to utilize green business practices in their daily activities.

Figure G6. Share of Businesses with Green Activity by Industry
(percent of all businesses)



The percentage of businesses engaged in the green economy is the highest in Workforce Development Region 2, which includes the Huntsville and Decatur metro areas, at 29.3 percent. Region 3, covering the Tuscaloosa metro, ranks second, with 28.4 percent of area firms producing green products or services or engaging in environmentally friendly business practices. Green activity businesses account for about 25 percent of the total in Regions 1, 4, and 7, encompassing the Florence-Muscle Shoals, Birmingham-Hoover, and Montgomery metros. With the exception of Region 7, the southern half of Alabama is less “green” than its northern counterpart. Green participation of businesses in Regions 9 (including Mobile) and 10 (with the Dothan metro) is well below the statewide average of 23.9 percent, at 18.3 and 17.0 percent, respectively.

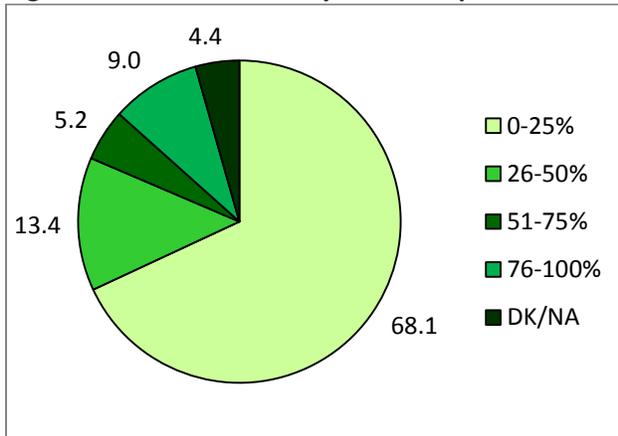
Figure G7. Share of Businesses with Green Activity by Region
(percent of all businesses)



Level of Green Participation and Identification of Green Companies

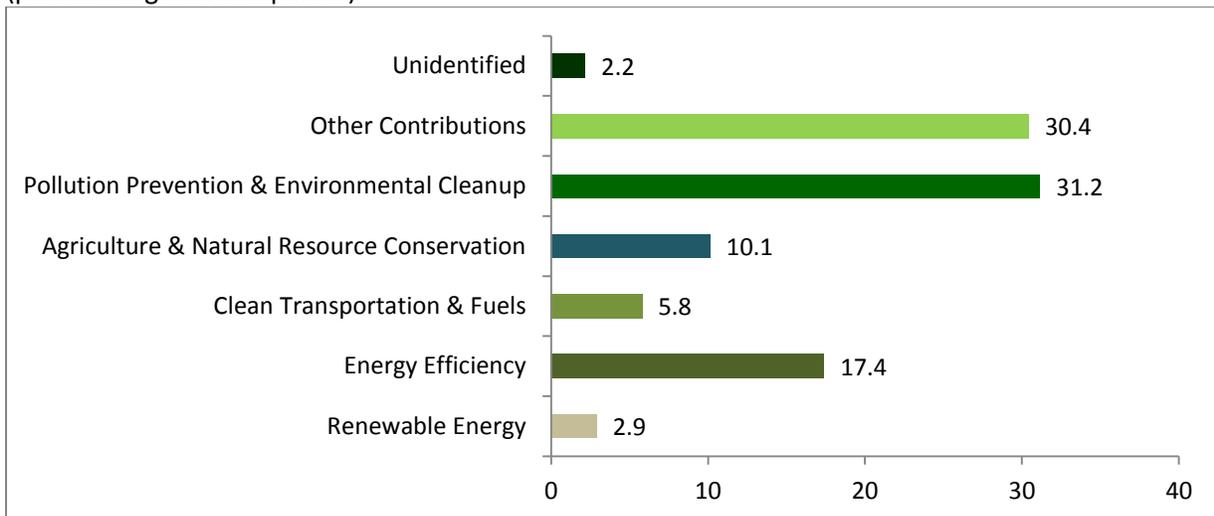
Although almost a quarter of the state’s businesses are participating in the green economy, most are devoting a quarter or less of their daily business practices to these activities. However, 27.6 percent of all green activity firms report that green production and/or green business practices comprise 26 percent or more of their daily practice, including 14.2 percent where it amounts to more than half. These 138 businesses spending more than 25 percent of their time on green activities are termed “green companies” for their level of involvement. They amount to 6.2 percent of all entities completing the benefits and green activity survey.

Figure G8. Percent of Daily Practice Spent on Green Activities



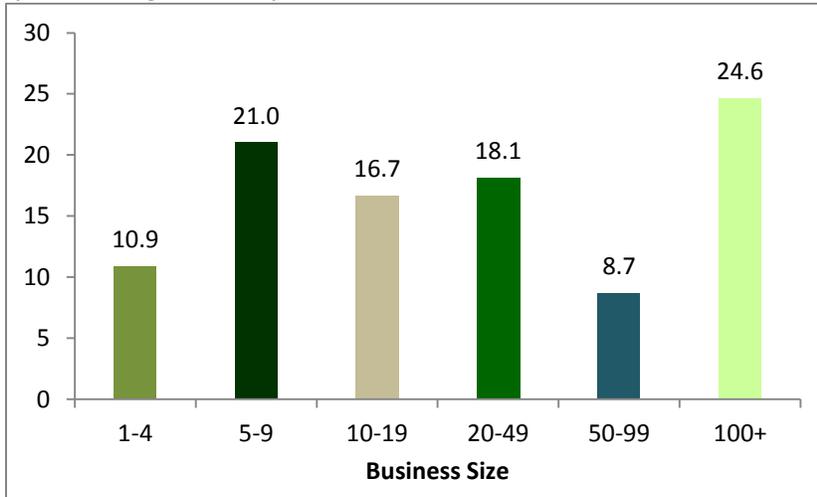
Alabama’s green companies are more likely to be engaged in the production of green goods and services, particularly in the areas of clean transportation and fuels and agriculture and natural resource conservation. They are significantly less likely to list as their primary green activity pollution prevention and environmental cleanup, although that remains the category most frequently selected.

Figure G9. Alabama Green Companies by Category of Green Activity
(percent of green companies)



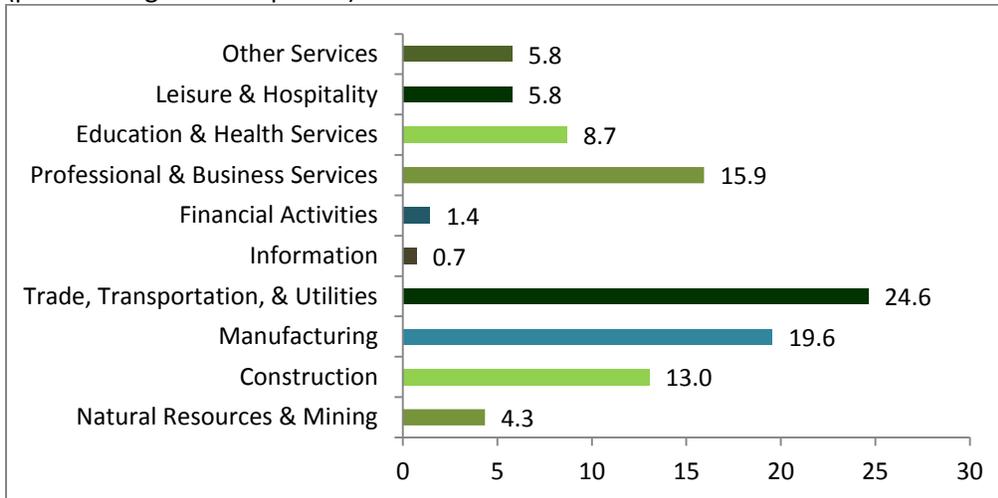
Distribution of the state’s green companies by number of employees is similar to the distribution of all green activity businesses. However, these businesses are somewhat more likely to have fewer than 20 employees and they fall less often into the group employing 50 to 99.

Figure G10. Green Companies by Employment
(percent of green companies)



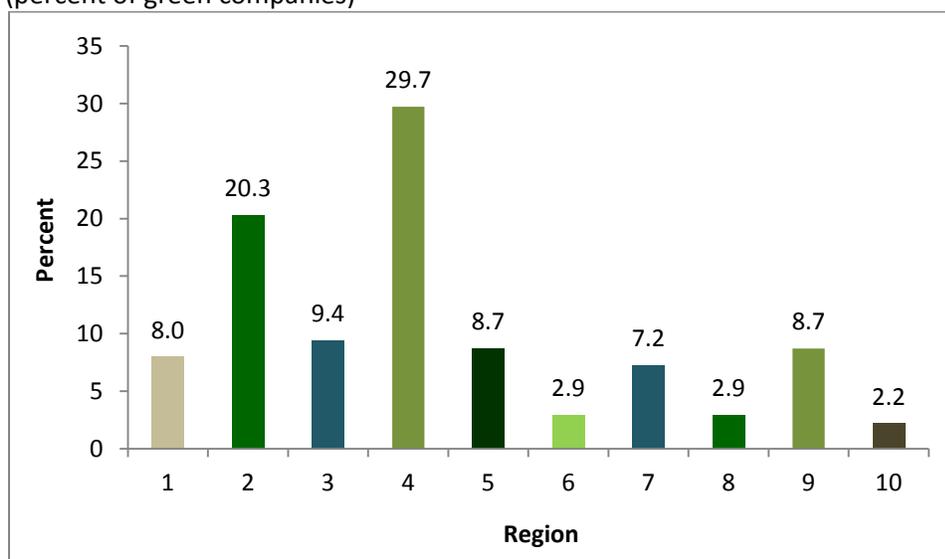
The two largest industry sectors for green companies—trade, transportation, and utilities and manufacturing—account for around the same 44 percent share as for all businesses engaged in green activity. But Alabama’s green companies are more concentrated in professional and business services, construction, and natural resources and mining than the larger green activity group. They also have significantly less representation from the education and health services and financial activities sectors.

Figure G11. Green Companies by Industry
(percent of green companies)



Half of companies spending more than 25 percent of their daily business practice on green activities are located in the Huntsville-Decatur (WDR 2) and Birmingham-Hoover (WDR 4) areas. Compared to the regional distribution of the 530 green activity businesses, these 138 green companies are more concentrated in the Tuscaloosa area (WDR 3) and less prevalent in the Mobile (WDR 9) and Dothan (WDR 10) regions.

Figure G12. Green Companies by Workforce Development Region
(percent of green companies)



A Green and Sustainable Future for Alabama

The finding from the ADIR survey that almost a quarter of the state’s businesses are active participants in green activities shows the existing strength of Alabama’s green economy. And results from a recent Brookings Institution study confirm that the state has a sizeable green presence. While not all firms will be engaged in producing green products or services, every business can incorporate green business practices into their daily activities. Initiatives to promote these objectives will continue to grow our green economy, protecting our environment and our natural resources for generations to come.

The analysis above, coupled with upcoming data on green jobs from the Bureau of Labor Statistics, will help identify the size and composition of Alabama’s green economy. O*NET’s focus on green industries and jobs from an occupational point of view will enable comparison of job prospects and trends for identified green occupations with other occupations. Based on O*NET’s specification of education and tasks required in these occupations, skills gap analyses will show what educators and trainers should focus on to prepare workers for growing green industries. This material can inform regional workforce boards of potential impacts for their regional economic plans.

Section 1. Insurance

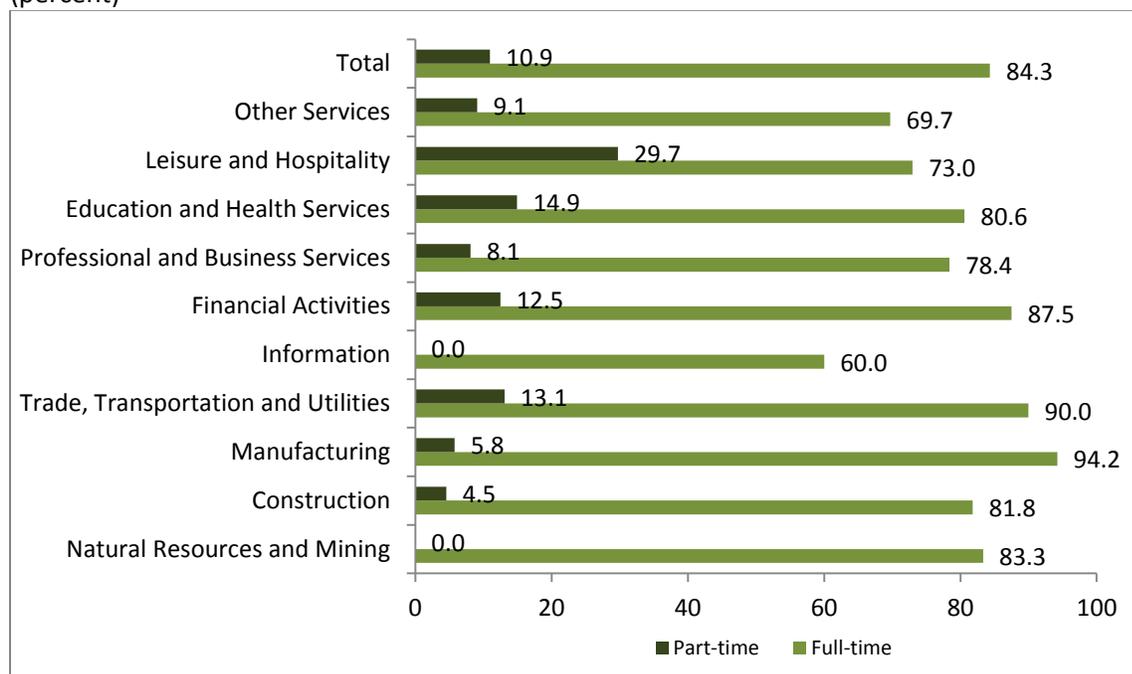
1-1 Medical Insurance

Industry

The overwhelming majority of Alabama businesses engaged in green activities, over 84 percent of these firms, offer full-time employees medical insurance. Conversely, only 11 percent of green businesses in the state offer part-time employees medical insurance. The manufacturing; trade, transportation, and utilities; and financial services industries are most likely to offer medical insurance to their full-time employees—94, 90, and 88 percent, respectively. Eighty-three percent of natural resources and mining firms offer their workers medical insurance, while 82 percent of construction and 81 percent of education and health services companies provide their full-time workers with medical insurance. The lowest incidence of medical insurance for full-time employees was 60 percent in information, with other services just above that at 70 percent. See Figure 1-1.1 for complete details.

Notably, the information and natural resources industries had no employers offering this coverage for part-time employees, and information had a relatively low proportion of employers doing so for full-time employees. Sample sizes were very small for each of these industries; therefore, throughout this report, where percentages for these industries differ significantly from overall averages, the results may be due to sampling error.

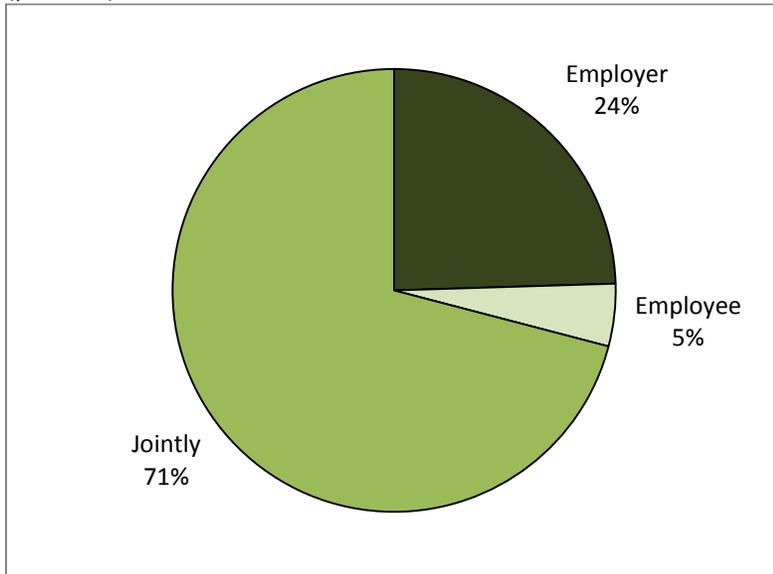
Figure 1-1.1. Green Employers Offering Medical Insurance Coverage by Industry (percent)



The leisure and hospitality industry is by far the most likely to offer medical insurance to part-time employees, with 30 percent of companies doing so. Fifteen percent of education and health services firms offer part-time employees insurance, while 13 percent of companies do so in trade, transportation, and utilities and in financial activities. In all other industries, 10 percent or less of green businesses make medical insurance available to part-time employees.

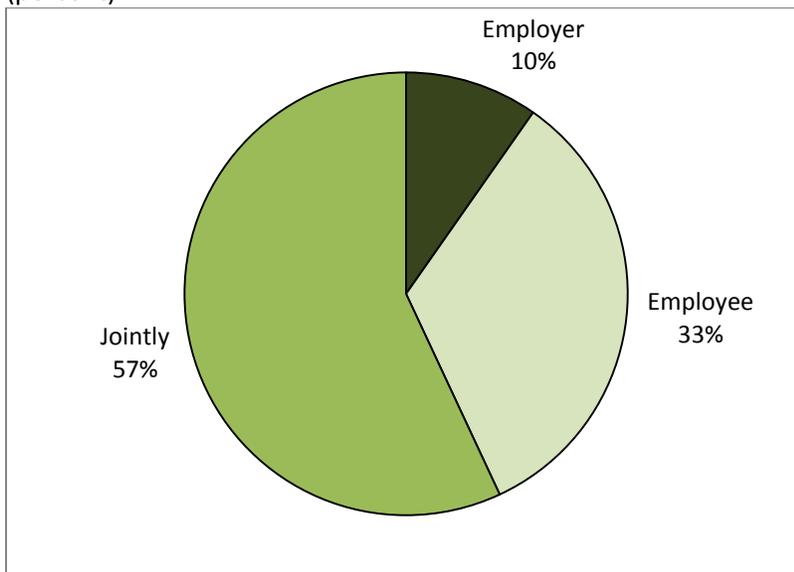
Across all industries, 71 percent of green employers in the state jointly pay medical insurance premiums; 24 percent pay the entire premium; and 5 percent require the employee to pay the full premium. While 24 percent of all green activity businesses pay the entire premium, 31 percent in manufacturing and 33 percent in professional and business services pay the full cost.

Figure 1-1.2. Source of Medical Insurance Premiums for Full-time Employees of Green Employers (percent)



The picture for part-time workers is quite different. Medical insurance premiums are jointly paid by 57 percent of Alabama green businesses; paid by the employer alone in 10 percent; and by the worker alone in 33 percent. Approximately 17 percent of manufacturing employers pay the full premium for part-time workers. Not surprisingly, no green leisure and hospitality companies surveyed pay the premium, while 70 percent require the employee to pay entirely and 30 percent pay jointly.

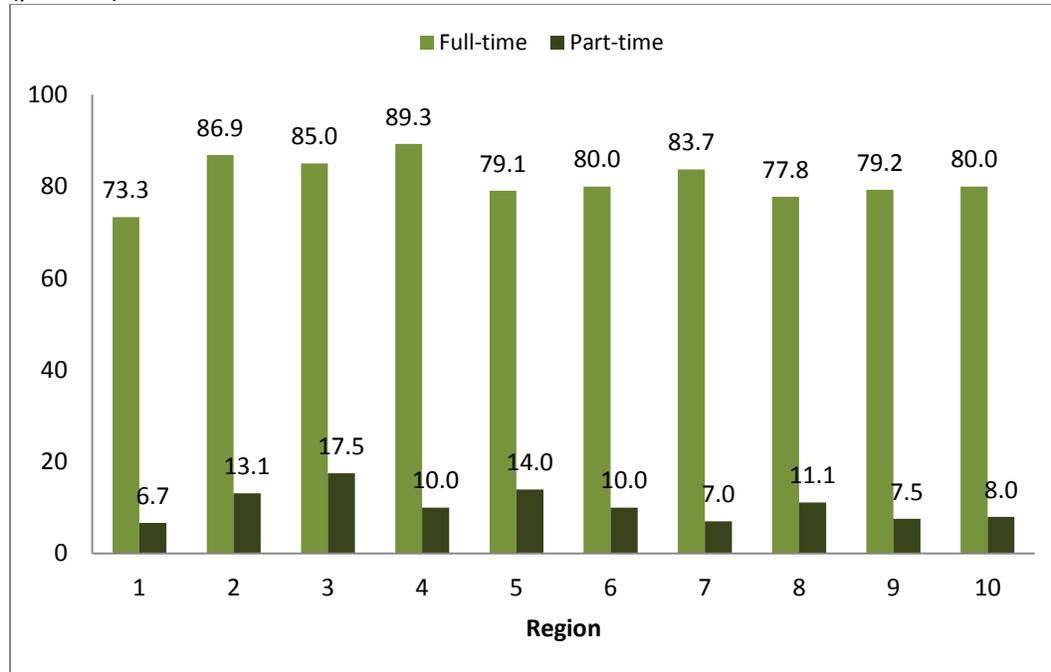
Figure 1-1.3. Source of Medical Insurance Premiums for Part-time Employees of Green Employers (percent)



Region

Region 4 (Birmingham-Hoover metro) green businesses are most likely to offer full-time employees medical insurance—89 percent make coverage available to full-time employees. Eighty-seven percent of Region 2 (Huntsville-Decatur area) companies offer coverage for their full-time employees. Not surprisingly, far fewer companies provide medical insurance to their part-time employees. Region 3 (Tuscaloosa) firms most commonly offer part-time employees medical insurance, with 18 percent doing so, followed by 14 percent in Region 5.

Figure 1-1.3. Green Employers Offering Medical Insurance by Region
(percent)

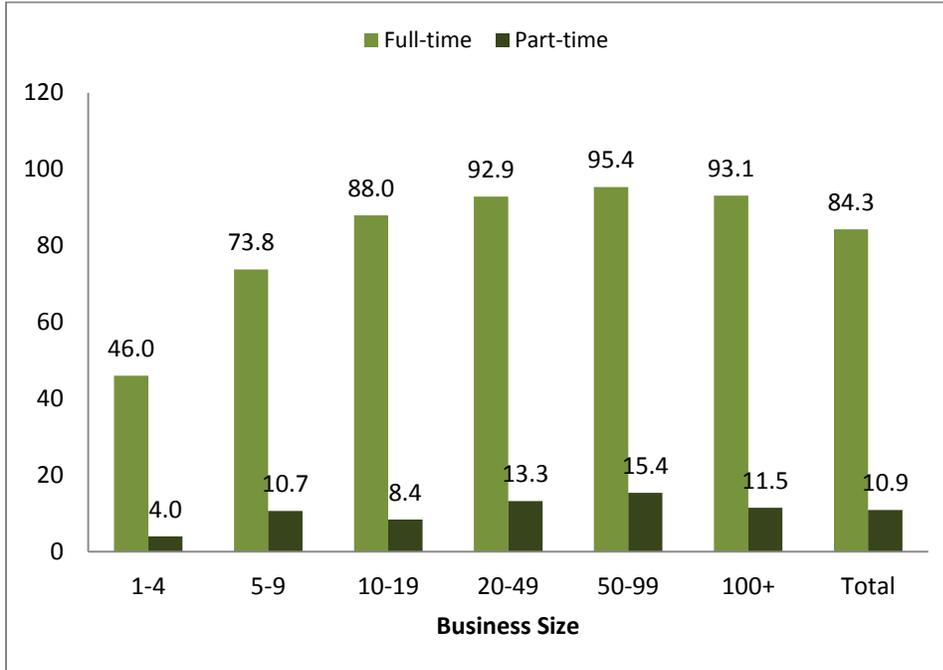


Business Size

In general, the larger the business, the more likely it will offer medical insurance to its employees. Ninety-three percent of green businesses with 100 or more employees offer medical insurance to their full-time employees. While this percentage is slightly higher for companies with 50-99 employees, it drops to 88, 74, and 46 percent, respectively, for firms with 10-19, 5-9, and fewer than five employees.

The percent of green firms offering medical insurance to their part-time employees also generally increases as the size of the company increases. Just 4 percent of businesses with 1-4 employees offer this benefit, while 15 percent of companies with 50-99 employees do so.

Figure 1-1.4. Green Employers Offering Medical Insurance by Business Size (percent)



1-2 Medical Insurance for Employees' Spouses or Dependents

Industry

Of those green employers that offer health insurance to full-time employees' spouses and dependents, over 8 percent pay 100 percent of the costs. About 63 percent of employers pay jointly with their full-time employees for health insurance for spouses and dependents. For part-time employees, family medical insurance premiums are paid by the employer alone by only 3 percent of Alabama green activity businesses, jointly between employers and employees by 52 percent, and by the employee alone at 45 percent of firms.

Figure 1-2.1. Source of Family Medical Insurance Premiums for Full-time Employees of Green Activity Businesses

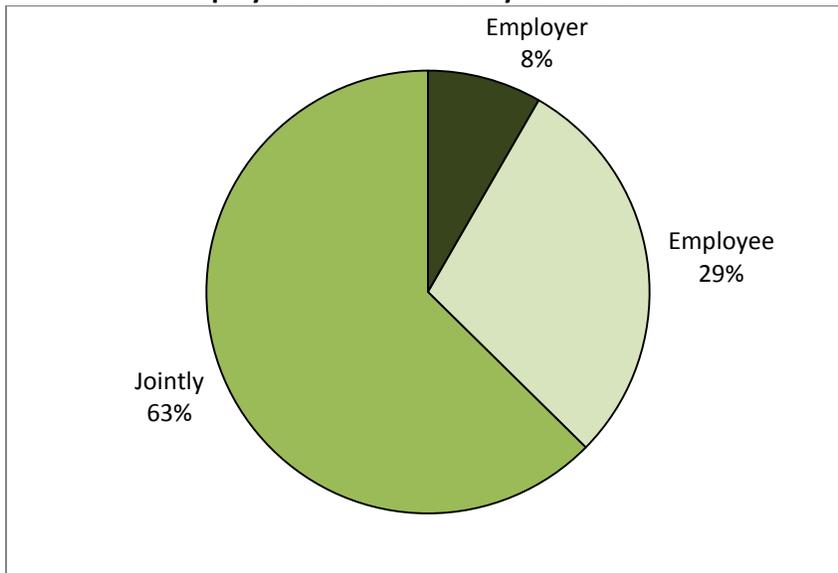
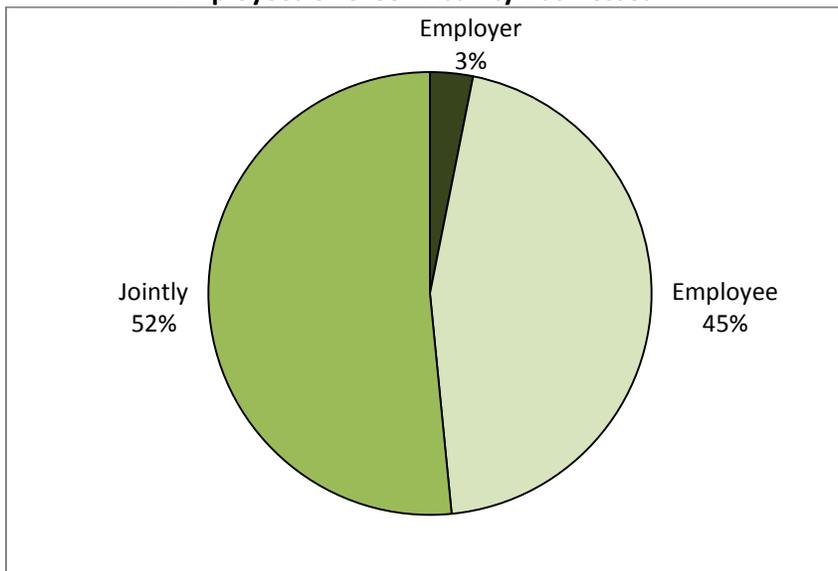


Figure 1-2.2. Source of Family Medical Insurance Premiums for Part-time Employees of Green Activity Businesses



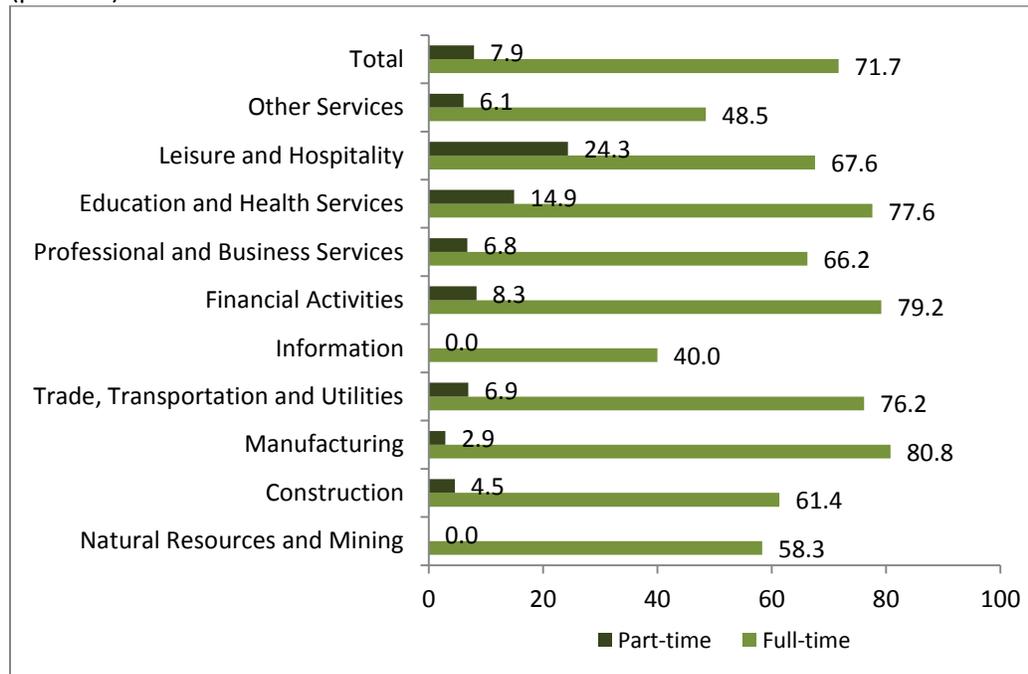
1-3 Dental Insurance

Industry

Dental insurance is offered to full-time employees by 72 percent of all green employers; 8 percent of these firms provide dental benefits to part-time employees. Full-time employees are most likely to be offered dental insurance by businesses in manufacturing (81 percent), financial activities (79 percent), and education and health services (78 percent). Part-time employees receive dental insurance benefits mainly in the leisure and hospitality (24 percent) and education and health services (15 percent) industries. See Figure 1-3.1 for details.

Notably, the information and natural resources had relatively low proportions of employers offering dental insurance coverage for full-time employees, and no employers doing so for part-time employees. These results may be due to sampling error, as sample sizes of green employers in these industries were small.

Figure 1-3.1. Green Employers Offering Dental Insurance by Industry
(percent)



About half of employers offering dental insurance to full-time employees jointly pay the costs with the employee. The remainder is evenly split between employers that pay the full costs of dental coverage for employees (24 percent) and employers that do not contribute to dental premiums (25 percent). Five percent of employers offering dental insurance to part-time employees pay all of the costs. About 42 percent of employers providing dental insurance to part-time employees jointly pay the cost.

Figure 1-3.2. Source of Dental Insurance Premiums for Full-time Employees of Green Firms

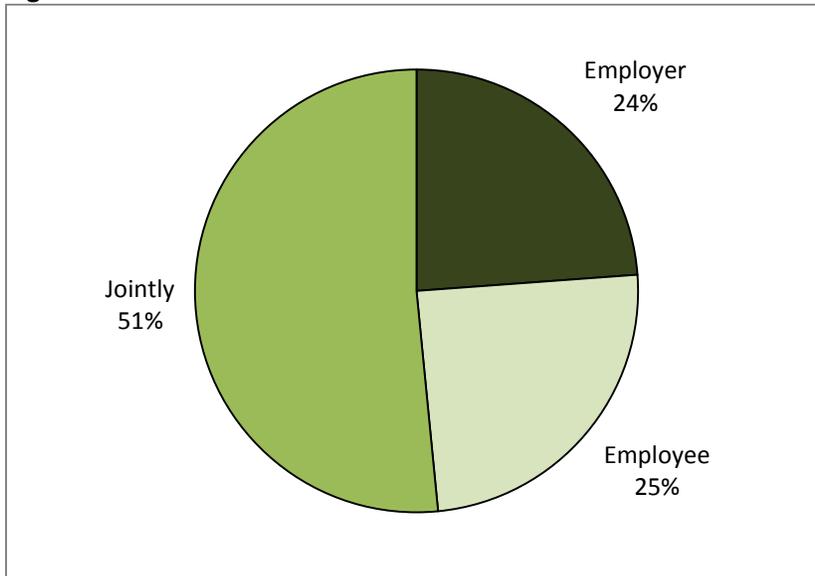
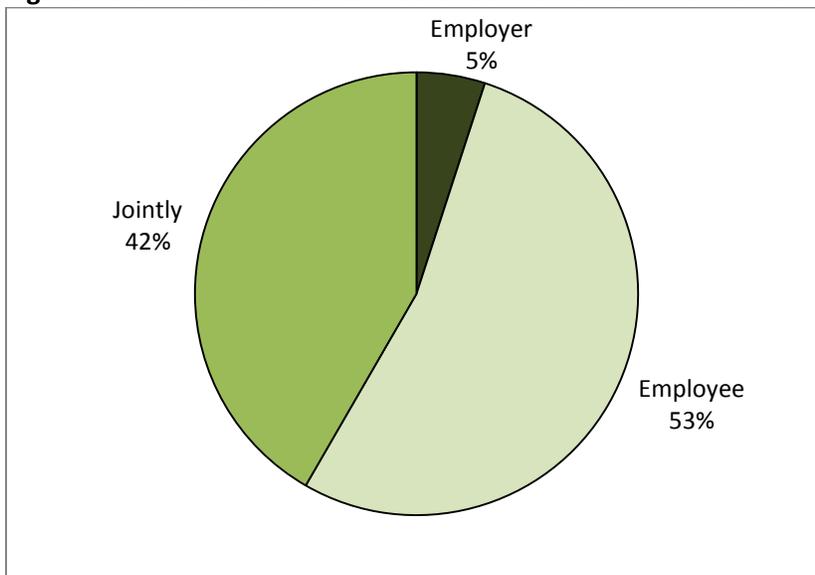


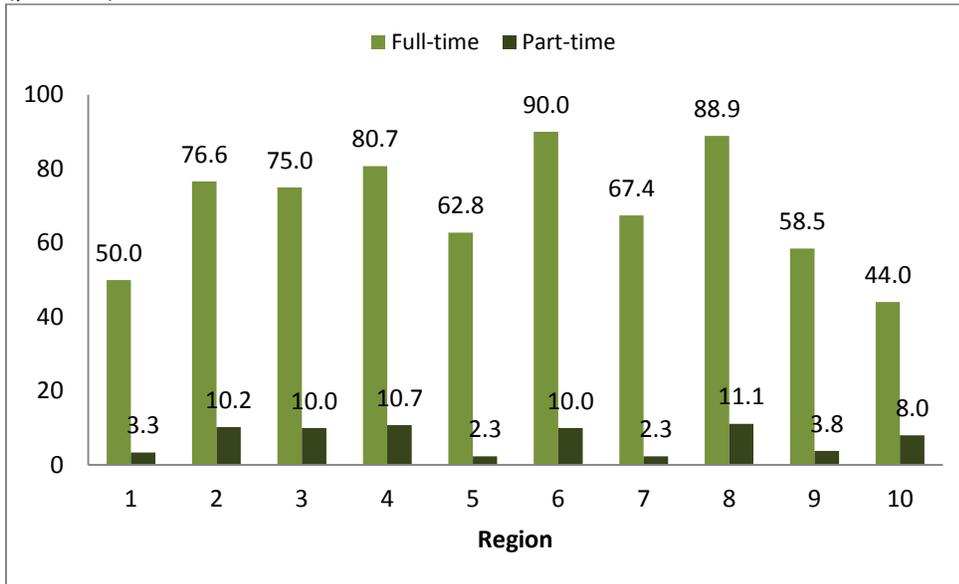
Figure 1-3.3. Source of Dental Insurance Premiums for Part-time Employees of Green Firms



Region

Dental insurance is offered to employees in 90 percent of Region 6 green activity firms and 89 percent of Region 8 companies. This share falls to 10 and 11 percent, respectively, for part-time employees in these regions. Across the balance of the state, between 50 and 81 percent of companies make dental insurance coverage available to their full-time employees. Likewise, between 2 and 11 percent of green firms in the remainder of the state offer this coverage to their part-time employees.

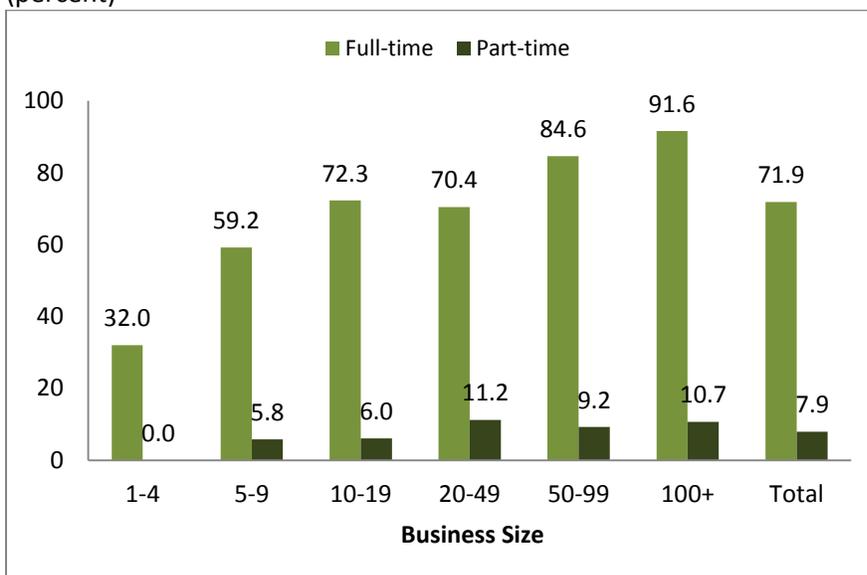
Figure 1-3.4. Green Employers Offering Dental Insurance by Region (percent)



Business Size

The percentage of employers offering dental insurance increases significantly as employer size increases. Ninety-two percent of businesses with 100 or more employees offer dental insurance to full-time employees, in sharp contrast to 59 percent of businesses with 5-9 employees and 32 percent of businesses with four or fewer employees. No employers surveyed with fewer than five employees offer dental insurance to part-time employees. This percentage increases gradually to 6 percent of businesses with 5-9 and 10-19 employees and jumps to 11 percent of employers with more than 100 employees. See Figure 1-3.5 for complete details.

Figure 1-3.5. Green Employers Offering Dental Insurance by Business Size (percent)



1-4 Dental Insurance for Employees' Spouses or Dependents

About half of green employers offering dental insurance to spouses and dependents of full-time workers pay the costs jointly with employees. However, 41 percent of employees pay the costs on their own. Part-time employees receiving dental coverage for their families pay the full costs of this benefit more often, with 60 percent of employers paying none of the costs. Another 36 percent pay jointly along with the employee.

Figure 1-4.1. Source of Family Dental Insurance Premiums for Full-time Employees of Green Activity Businesses

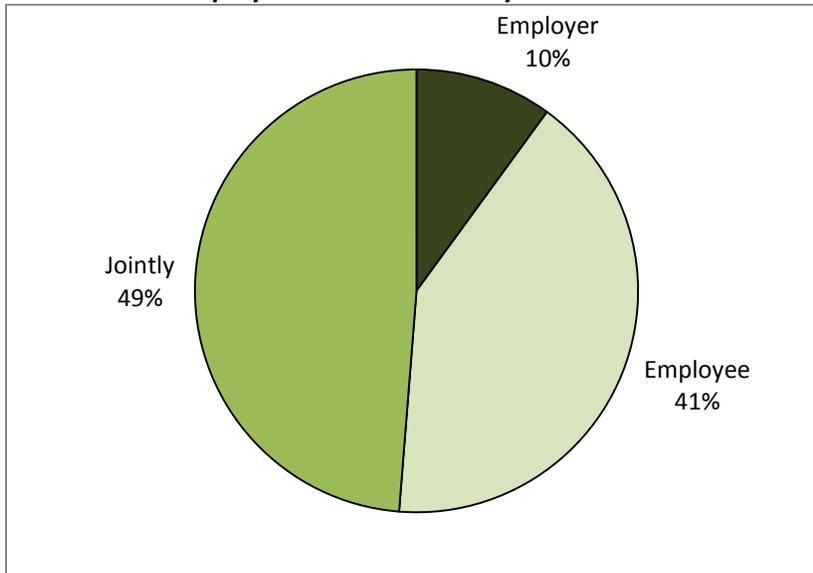
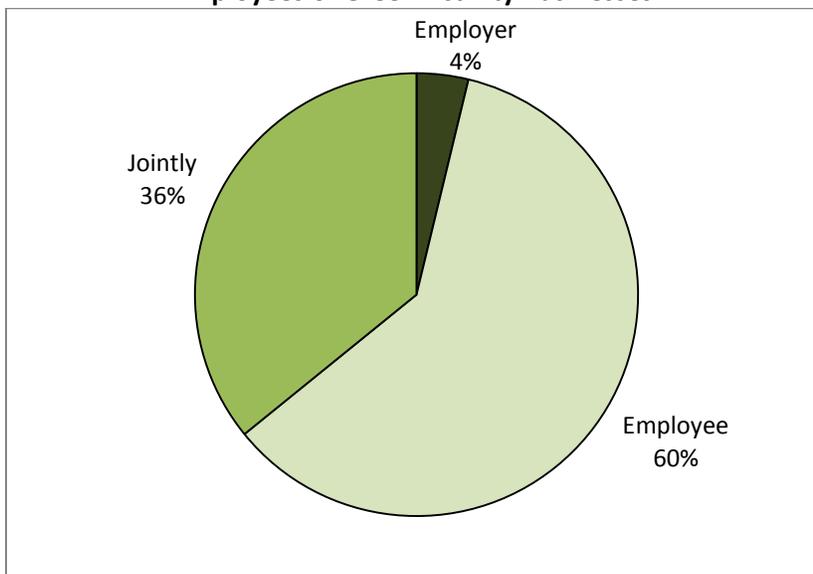


Figure 1-4.2. Source of Family Dental Insurance Premiums for Part-time Employees of Green Activity Businesses

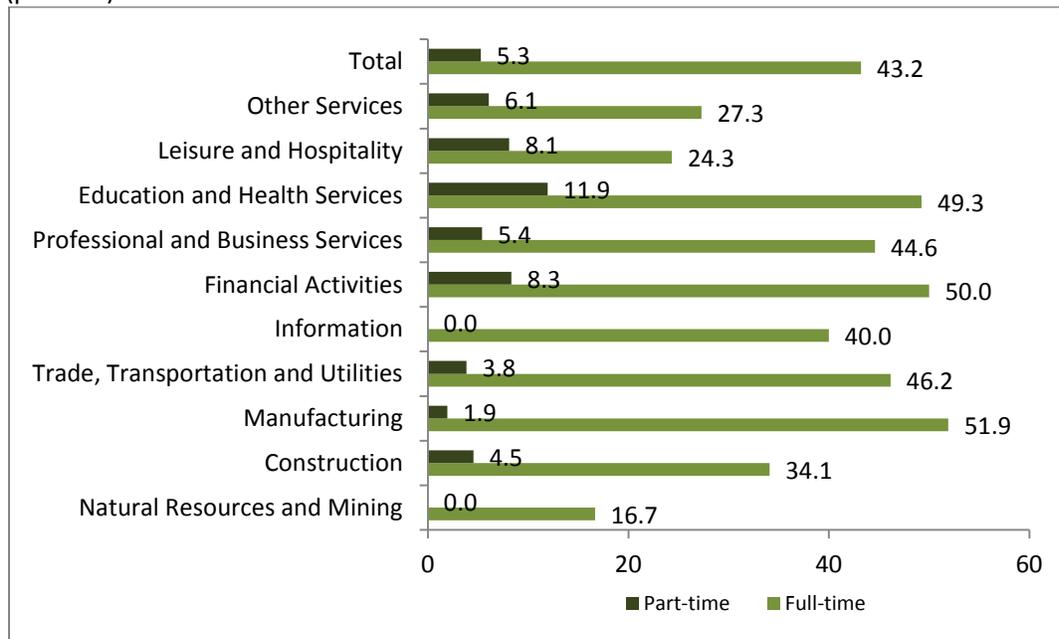


1-5 Vision Insurance

Industry

Vision insurance is offered to full-time employees by about 43 percent of Alabama’s green employers and to part-time employees by 5 percent. Full-time employees are most likely to be offered vision insurance by businesses in the manufacturing (52 percent), financial services (50 percent), and education and health services (49 percent) industries. Only 17 percent of employers in the natural resources industry offer vision insurance to their full-time employees—the lowest percentage of any industry group.

Figure 1-5.1. Green Employers Offering Vision Insurance by Industry
(percent)

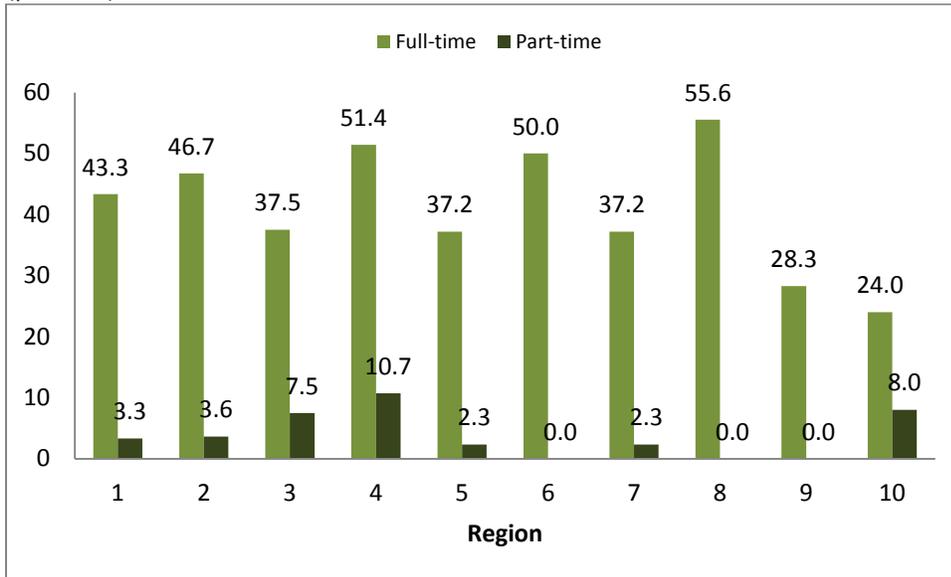


Part-time employees are most likely to be offered vision insurance by businesses in education and health services (12 percent), financial activities (8 percent), and leisure and hospitality (8 percent).

Region

Region 8 green businesses, with 56 percent, are most likely to offer vision insurance to full-time employees. Region 4 companies, at 51 percent, are close behind. There is considerable variation across the regions, however, with the share of firms offering vision coverage ranging from a low of 24 percent to the high of 56 percent. As expected, dramatically fewer companies offer vision insurance to their part-time employees. This ranges from a high of 11 percent in Region 4 to no green firms in the survey offering vision insurance to part-time workers in Regions 8 and 9.

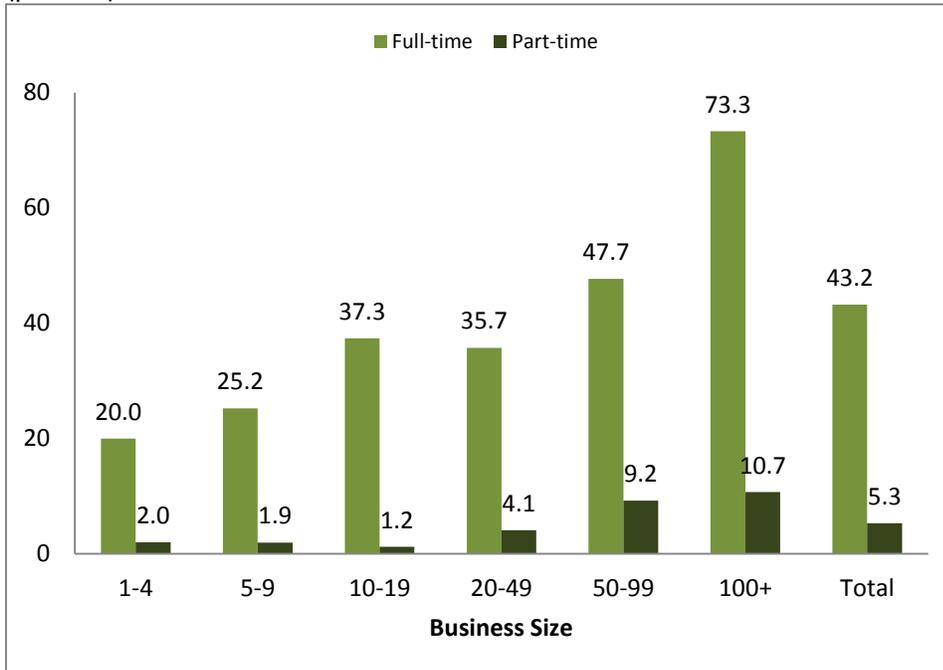
Figure 1-5.2. Green Employers Offering Vision Insurance by Region (percent)



Business Size

Forty-three percent of all Alabama green businesses surveyed offer vision insurance to full-time employees. A significantly higher proportion of employers with 100 or more employees make vision insurance available to their workers. Just five percent of green employers offer vision insurance to part-time employees. See Figure 1-5.3 for complete details.

Figure 1-5.3. Green Employers Offering Vision Insurance by Business Size (percent)



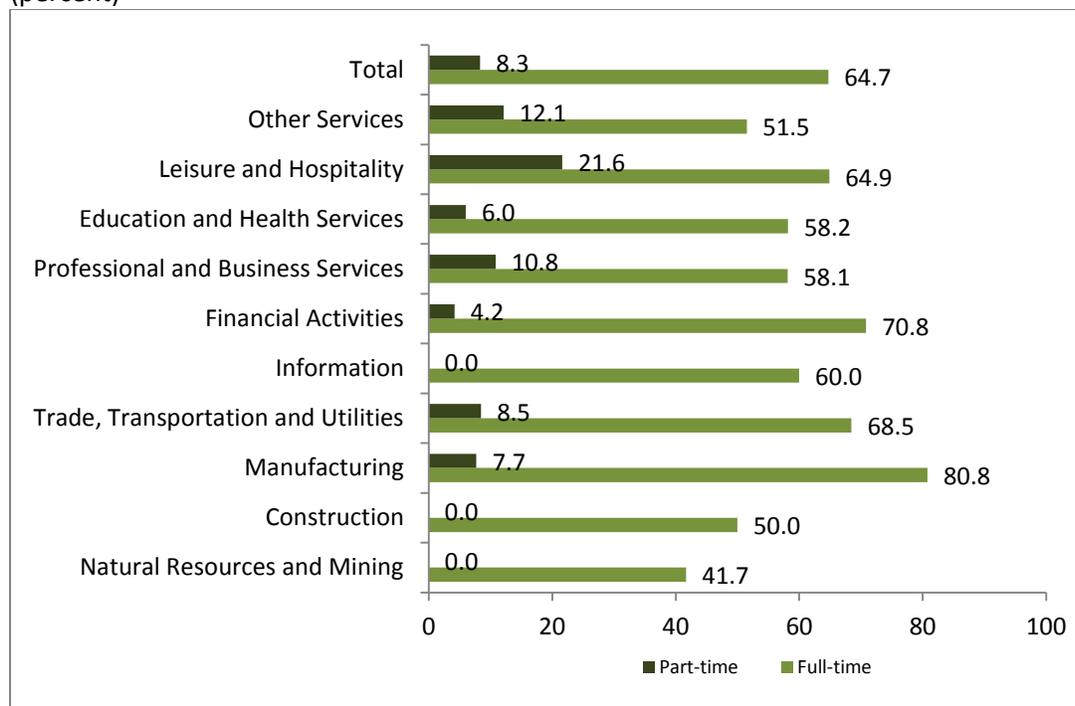
1-6 Life Insurance

Industry

Overall, the majority (65 percent) of Alabama green employers offer life insurance to full-time workers. Eighty-one percent of employers in manufacturing and 71 percent of employers in financial activities provide this benefit, the most of any industry.

Twenty-two percent of employers in the leisure and hospitality industry offer life insurance to part-time employees, a rate significantly higher than all other industries. Employers in most other industries are significantly less likely to offer life insurance, and no respondents in the natural resources, construction, and information industries do so. See Figure 1-6.1 for details.

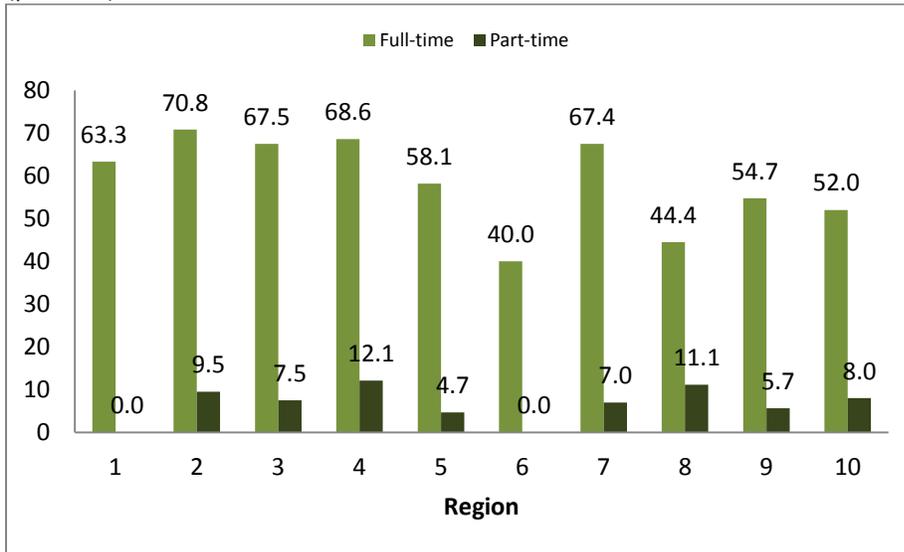
Figure 1-6.1. Green Employers Offering Life Insurance by Industry
(percent)



Region

Life insurance is offered to employees by 71 percent of green firms in Region 2 and by 69 percent in Region 4, the highest percentages among the 10 regions. Across the remaining regions, between 40 percent and 68 percent of businesses offer life insurance to full-time employees. However, no more than 12 percent of green employers offer part-time employees life insurance in any region.

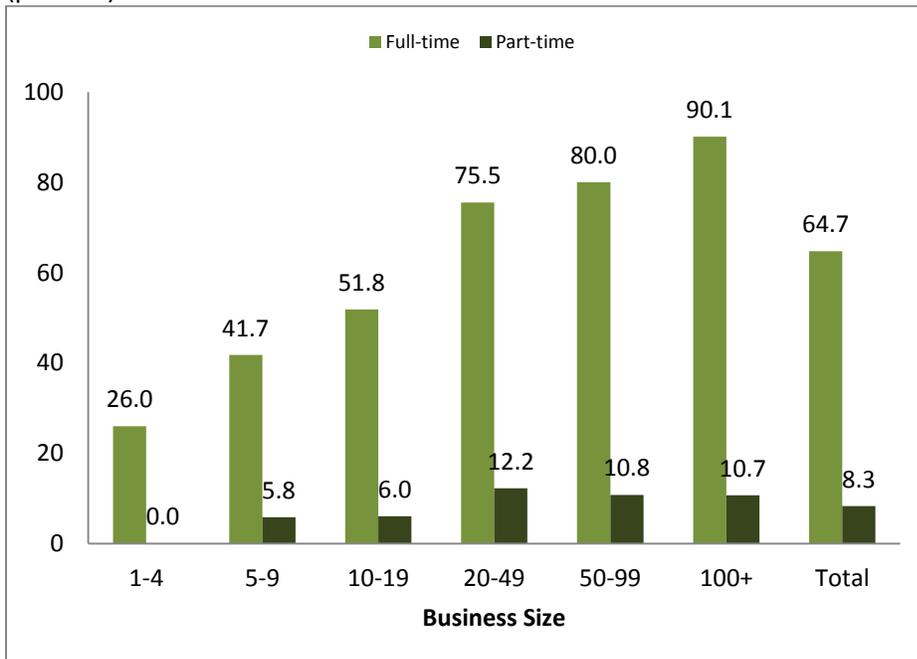
Figure 1-6.2. Percent of Green Employers Offering Life Insurance by Region (percent)



Business Size

About one out of four employers with four or fewer employees offer life insurance. This rate gradually increases with employer size, with 80 percent of green employers with 50-99 workers and 90 percent of employers with 100 or more employees offering life insurance. Around 11 percent of employers with 50-99 employees and with at least 100 employees provide life insurance benefits for part-time workers. See Figure 1-6.3 for details.

Figure 1-6.3. Percent of Green Employers Offering Life Insurance by Business Size (percent)



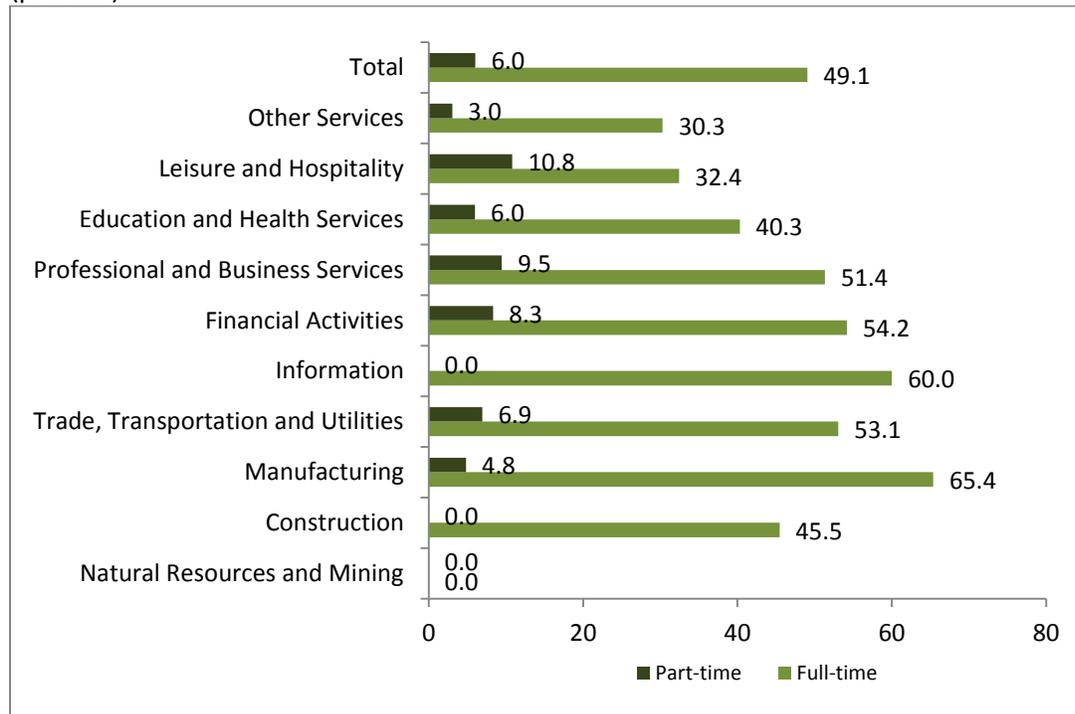
1-7 Short-term Disability Insurance

Industry

Overall, 49 percent of all Alabama green employers offer short-term disability insurance to full-time employees. And 6 percent of these firms have this benefit for their part-time employees. Manufacturing has the highest proportion of green employers offering short-term disability to full-time employees, with 65 percent doing so. The lowest proportions offering it are found in leisure and hospitality, at 32 percent, and in natural resources, where no employers surveyed make short-term disability insurance available to full-time workers.

Part-time employees in the leisure and hospitality (11 percent) and professional and business services (9 percent) industries are most likely to receive short-term disability insurance, in contrast with the construction, information, and natural resources and mining industries, where no part-time workers receive short-term disability benefits. See Figure 1-7.1 for details.

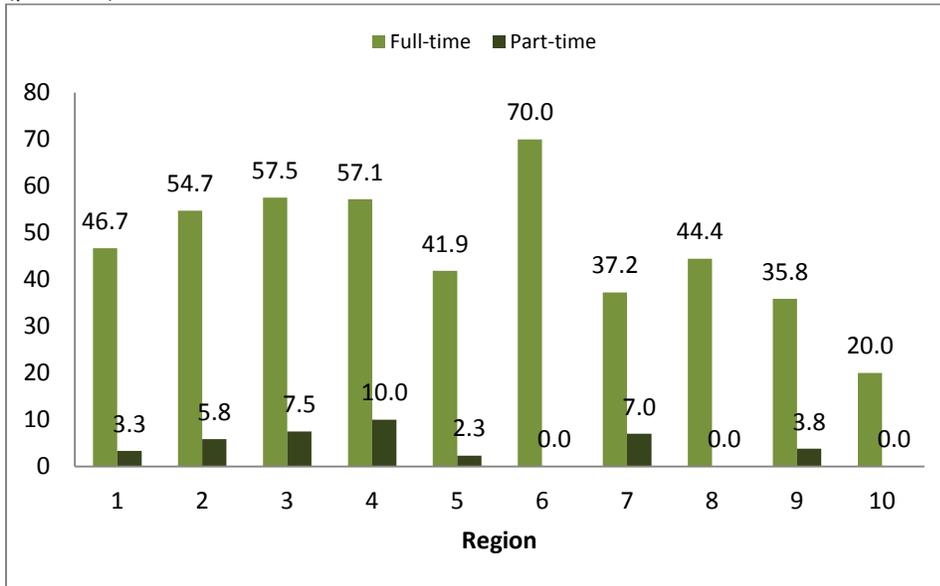
Figure 1-7.1. Green Employers Offering Short-term Disability Insurance by Industry (percent)



Region

Seventy percent of green firms in Region 6 offer short-term disability insurance to their full-time employees. This is followed by Regions 3 and 4, in which 58 and 57 percent, respectively, of green employers offer disability insurance. Very few companies make short-term disability insurance available to part-time employees. Region 4 has the highest proportion of employers that do so, at 10 percent, while multiple regions had no respondents that offered it.

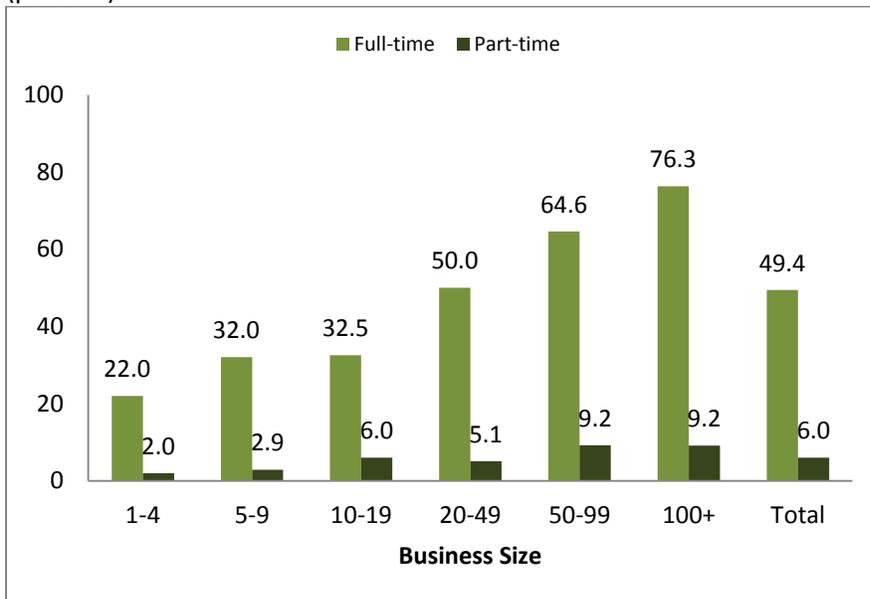
Figure 1-7.2. Percent of Green Employers Offering Short-term Disability Insurance by Region (percent)



Business Size

As the size of business increases, so does the proportion of employers that offer short-term disability benefits. Almost 65 percent of employers with 50-99 employees offer short-time disability insurance to full-time employees, and 76 percent of businesses with 100 or more employees do so. Only 22 percent of employers with 1-4 employees provide this benefit to full-time workers. Just 6 percent of all green employers offer short-term disability coverage to part-time employees, including highs of 9 percent among businesses with 50-99 and 100 or more workers. See Figure 1-7.3 for complete details.

Figure 1-7.3. Percent of Green Employers Offering Short-term Disability Insurance by Business Size (percent)



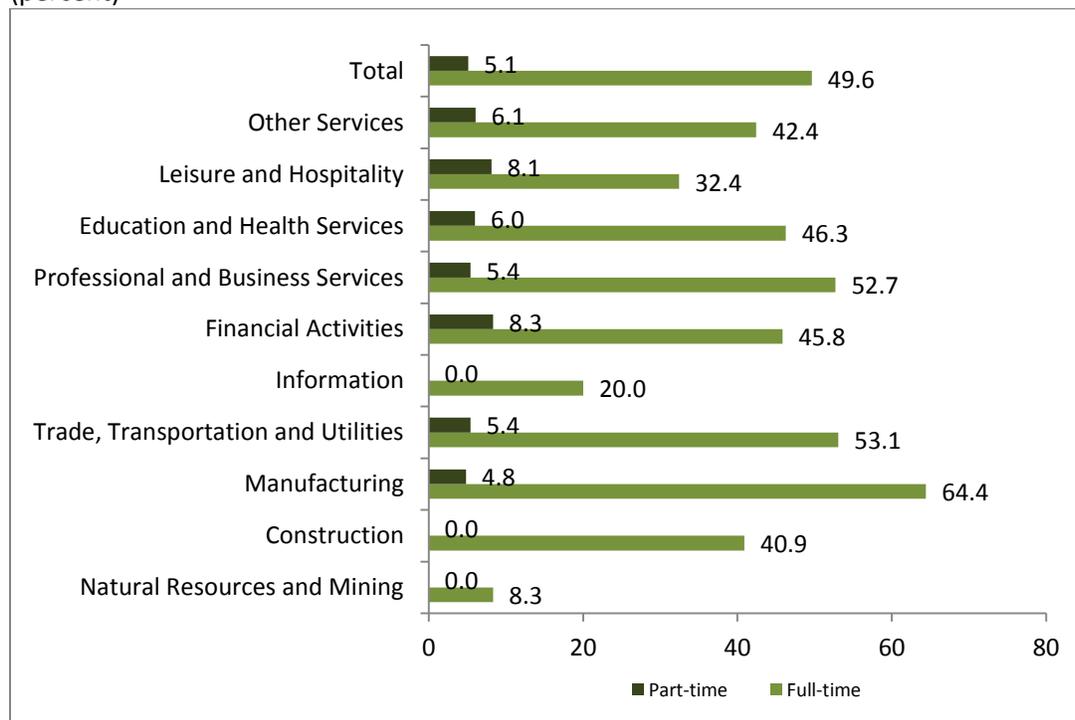
1-8 Long-term Disability Insurance

Industry

Overall, 50 percent of green employers offer long-term disability insurance to full-time employees, while 5 percent of these employers have this benefit for part-time employees. The manufacturing (64 percent), professional and business services (53 percent), and trade, transportation, and utilities (53 percent) industries most often offer long-term disability insurance to full-time employees.

Part-time employees are most likely to receive long-term disability benefits in the financial activities (8 percent) and leisure and hospitality (8 percent) industries. See Figure 1-8.1 for details.

Figure 1-8.1. Green Employers Offering Long-term Disability Insurance by Industry
(percent)

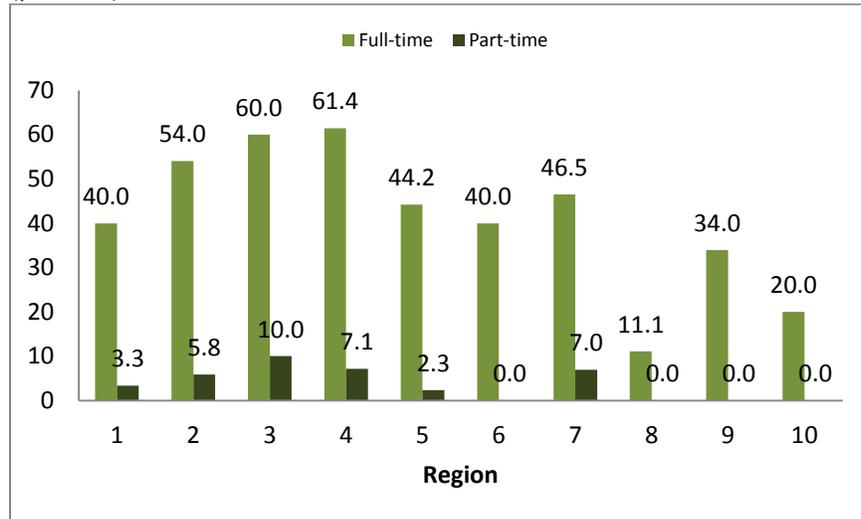


Region

Region 4 has the highest proportion of green businesses offering long-term disability coverage to full-time employees, at 61 percent. Close behind Region 4 is Region 3 with 60 percent. Across the other regions, this proportion ranges from just 11 percent to 54 percent.

Part-time employees overall are unlikely to be offered long-term disability insurance. The highest proportion of firms doing so is in Region 3, at 10 percent. Four of the remaining nine regions had no respondents who indicated they provide this benefit for part-time workers.

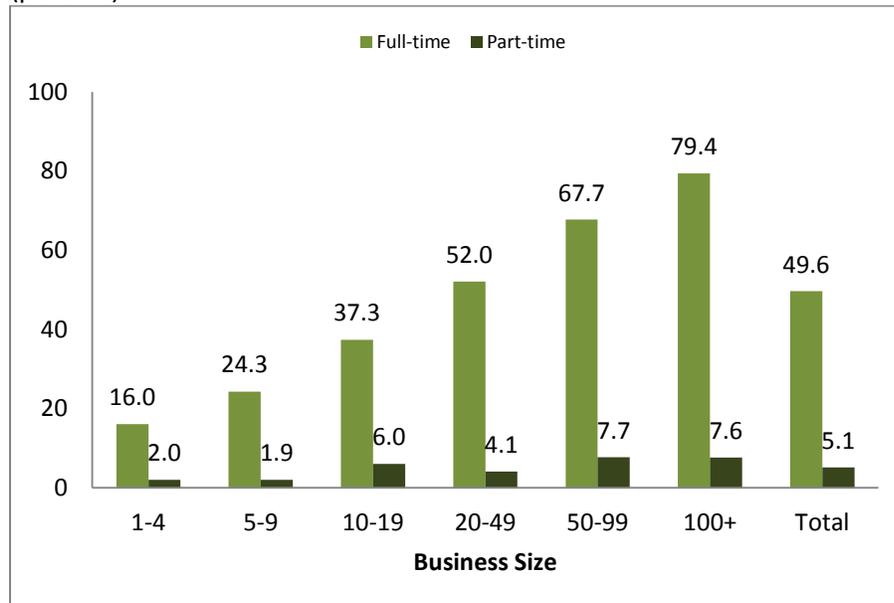
Figure 1-8.2. Green Employers Offering Long-term Disability Insurance by Region (percent)



Business Size

About 50 percent of all green employers reported offering long-term disability insurance to full-time employees. Not surprisingly, smaller employers provide this benefit significantly less often than do larger firms. Seventy-nine percent of businesses with at least 100 employees reported offering long-term disability insurance to full-time workers, compared with just 16 percent of those with fewer than five employees and 24 percent of those with 5-9 employees. Part-time employees are also somewhat more likely to be offered disability insurance from larger employers. See Figure 1-8.3 for details.

Figure 1-8.3. Green Employers Offering Long-term Disability Insurance by Business Size (percent)

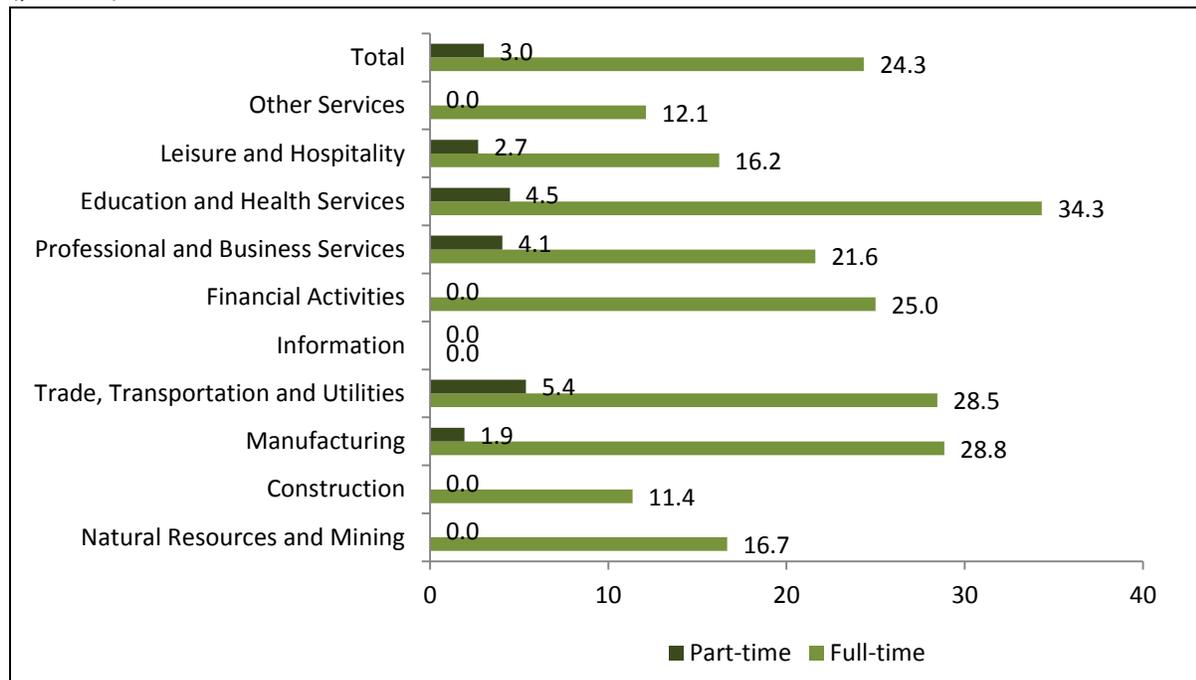


1-9 Long-term Care Insurance

Industry

Overall, only about one quarter of green businesses offer their full-time employees long-term care insurance. Industries that most commonly do so are education and health services (34 percent), manufacturing (29 percent), and trade, transportation, and utilities (28 percent). As might be expected, construction employers are some of the least likely to offer such coverage, with 11 percent doing so. Very few employers in any industry surveyed offer long-term care insurance to part-time employees. See Figure 1-9.1 for complete details on availability of long-term care insurance by industry.

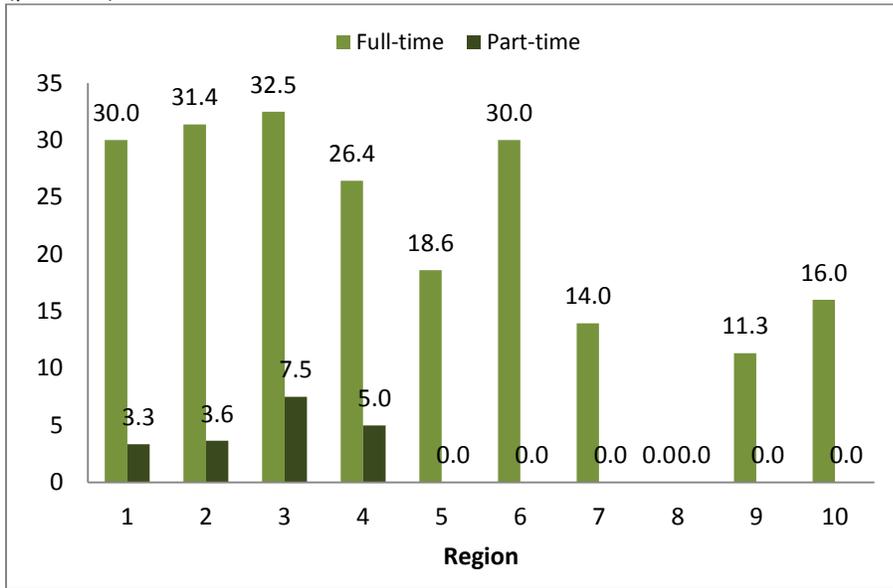
Figure 1-9.1 Green Employers Offering Long-term Care Insurance by Industry
(percent)



Region

The likelihood of employers offering long-term care insurance to full-time employees varies somewhat by region. Around 33 percent of Region 3 employers, 31 percent of Region 2, and 30 percent of Region 1 employers offer this coverage to full-time workers, the highest proportions found among green firms across the state. No green employers surveyed in Region 8 and just 11 percent of those in Region 9 make long-term care insurance available to full-time employees. Regions 1 through 4 are the only areas where green firms reported having long-term care insurance for part-time workers, with a high of 7.5 percent providing this benefit in Region 3.

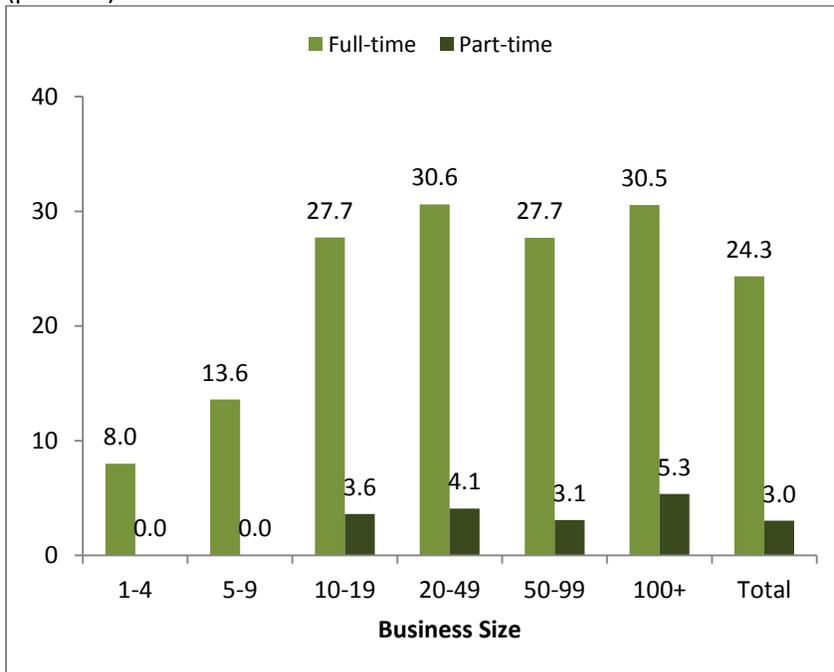
Figure 1-9.2 Green Employers Offering Long-term Care Insurance by Region (percent)



Business Size

Green businesses in Alabama with few employees are significantly less likely to offer long-term care insurance. Just 8 percent of businesses with 1-4 employees and 14 percent of firms with 5-9 employees offer this coverage to full-time employees. This compares to proportions of between 28 and 31 percent doing so for all other business size categories. In addition, among businesses surveyed, only those with at least 10 employees offered long-term care insurance to part-time employees.

Figure 1-9.3 Green Employers Offering Long-term Care Insurance by Business Size (percent)

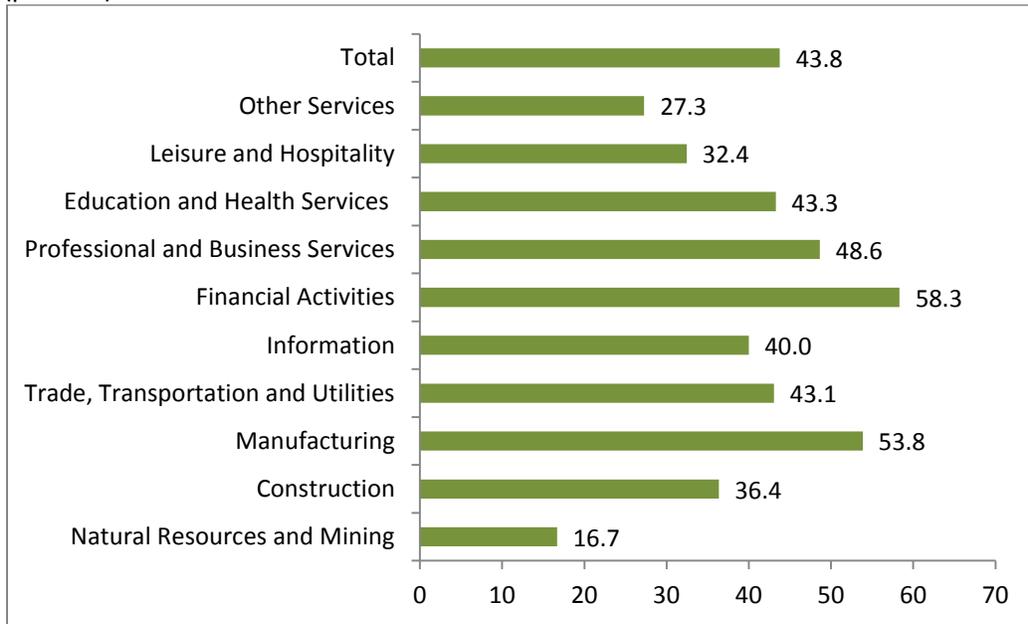


1-10 Changes in Health Care Coverage

Industry

Almost 44 percent of Alabama green businesses made changes to their healthcare coverage in 2009 due to rising costs. Firms in the financial services and manufacturing industries were the most likely to make such changes, with 58 and 54 percent, respectively, reporting changing their healthcare coverage, as seen in Figure 1-10.1. Natural resources businesses were at the low end of the scale, with only 17 percent changing their healthcare offerings, while leisure and hospitality businesses were slightly more likely to do so, at 32 percent.

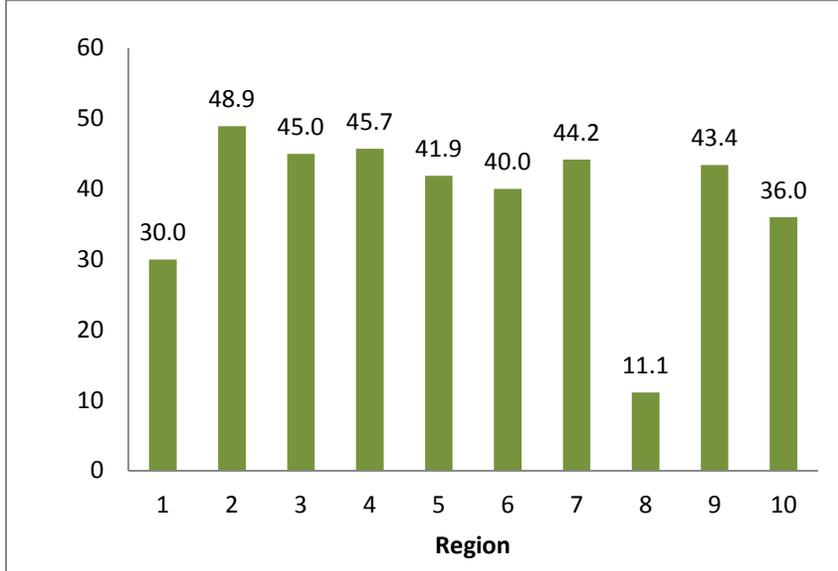
Figure 1-10.1. Green Employers Changing Healthcare Coverage in 2009 by Industry (percent)



Region

Region 2 had the highest proportion of green businesses making changes to their healthcare coverage in 2009, at 49 percent. Similar proportions of employers in Region 4 (46 percent) and Region 3 (45 percent) modified their coverage. Region 8 businesses were the least likely to change healthcare coverage, with just 11 percent doing so. Averages for all other regions fell between 30 and 44 percent.

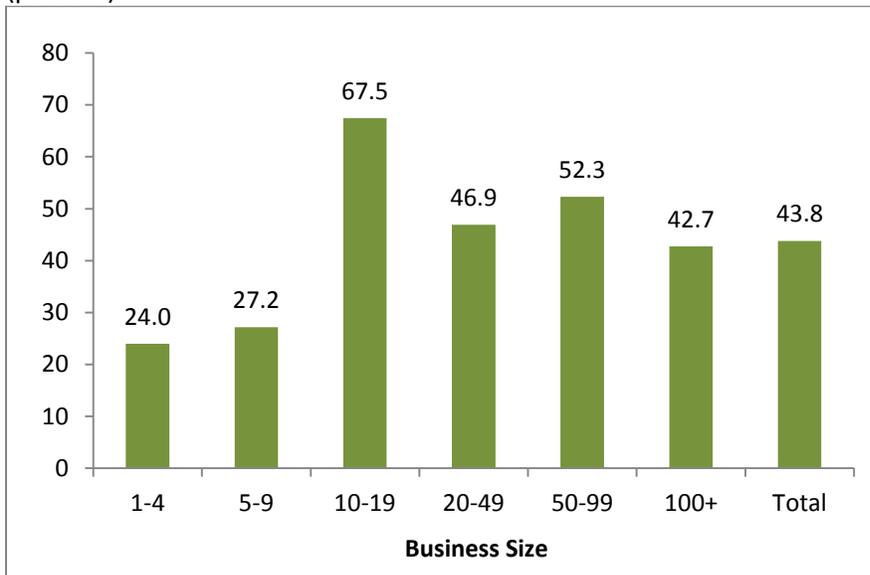
Figure 1-10.2. Green Employers Changing Healthcare Coverage in 2009 by Region (percent)



Business Size

In general, green businesses with fewer than 10 employees were less likely to change their healthcare coverage due to costs. Just 24 and 27 percent of businesses with 1-4 employees and 5-9 employees, respectively, made changes to their health care coverage in 2009. The proportion of firms making changes increases sharply to 67 and 47 percent for those with 10-19 employees and 20-49 employees, respectively. The largest green employers were slightly less likely to change healthcare coverage in response to rising costs. Over 52 percent of businesses with 50-99 employees indicated making such changes, but just 43 percent of firms employing 100 or more did so, as Figure 1-10.3 shows.

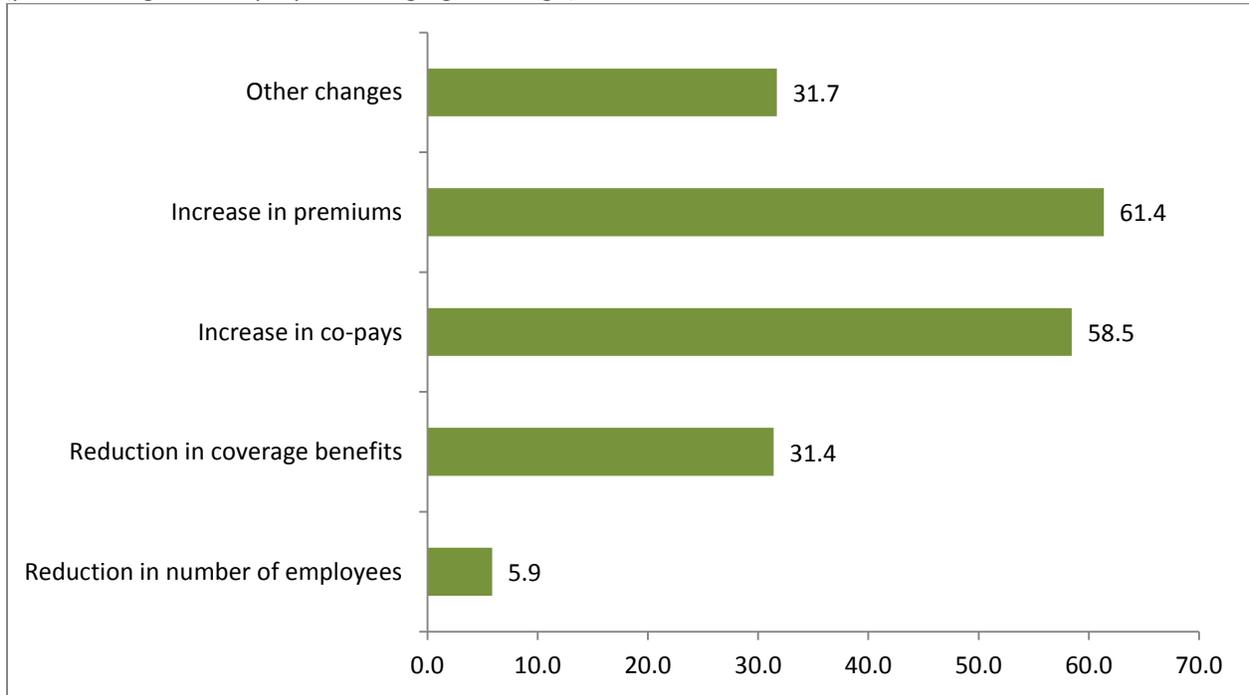
Figure 1-10.3. Green Employers Changing Healthcare Coverage in 2009 by Business Size (percent)



Coverage Changes by Green Employers

The majority of all green firms making changes during 2009 increased premiums (61 percent) and co-pays (58 percent) in response to rising costs. As Figure 1-10.4 shows, over 31 percent reduced benefits and about 32 percent made other changes, while just 6 percent reduced the number of employees covered. Survey respondents were allowed to select multiple ways in which they changed their healthcare coverage

Figure 1-10.4. Types of Changes in Health Care Coverage in 2009
(percent of green employers changing coverage)



Section 2. Paid Leave

2-1 Consolidated Paid Time Off (PTO)

Industry

Although consolidated paid time off (PTO) is being used more often by Alabama employers, there remains some confusion about the relationship between PTO, sick leave, and vacation leave. It is probably reasonable to assume companies that use PTO in lieu of sick and vacation days answered these questions correctly.

However, it could be the case that some firms that offer sick and vacation days answered yes to other leave questions thinking that they do provide paid time off. We were not able to estimate the degree to which the data may be confounded by possible misinterpretations of PTO. The following percentages should be viewed with caution, given the ambiguous nature of some of the survey responses.

Thirty-six percent of all green employers offer PTO to full-time employees. Half of employers in professional and business services provide PTO to their full-time employees, a rate statistically higher than all other industries. Companies in the education and health services (42 percent) and trade, transportation, and utilities (38 percent) industries are also more likely than average to offer PTO to full-time employees. Full-time workers on PTO average 11 days of leave annually.

Just over 9 percent of green employers offer PTO to part-time employees. The percentage of employers offering this benefit to part-time workers ranges from 0 percent in natural resources, construction, and information to 18 percent in the education and health services industry. Part-time employees average 8 days of PTO leave. See Figures 2-1.1, 2-1.2, and 2-1.3 for additional details.

Figure 2-1.1. Green Employers Offering Consolidated "Paid Time Off" (PTO) by Industry (percent)

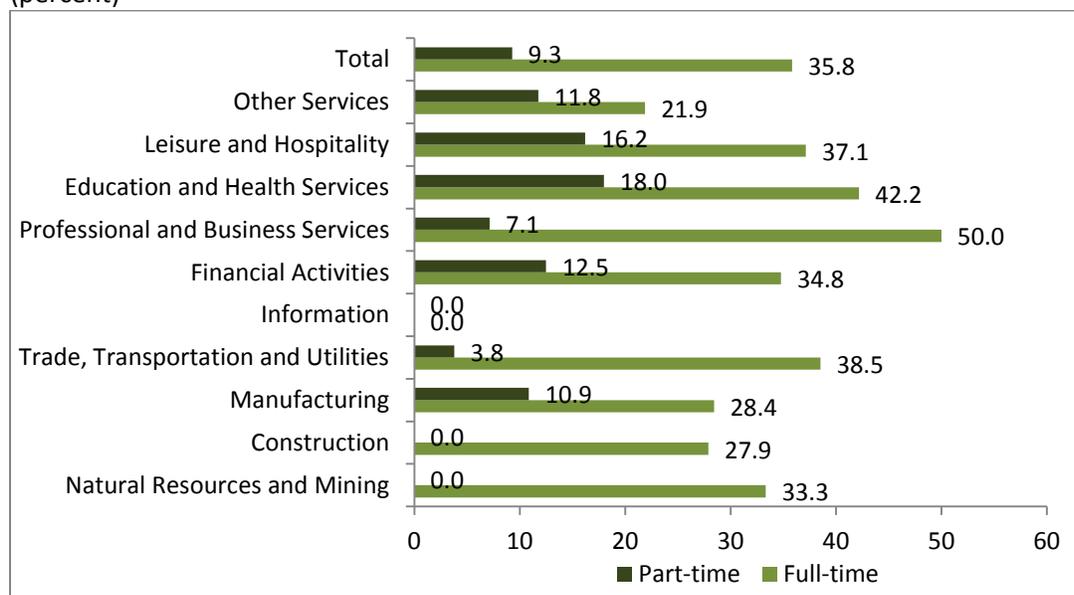


Figure 2-1.2. Average Number of Days of PTO for Full-time Employees by Industry

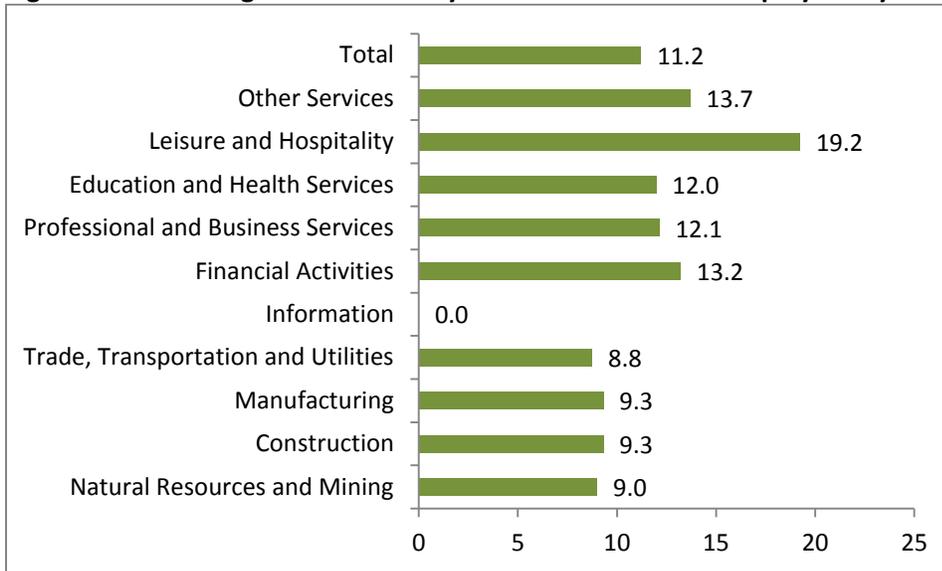
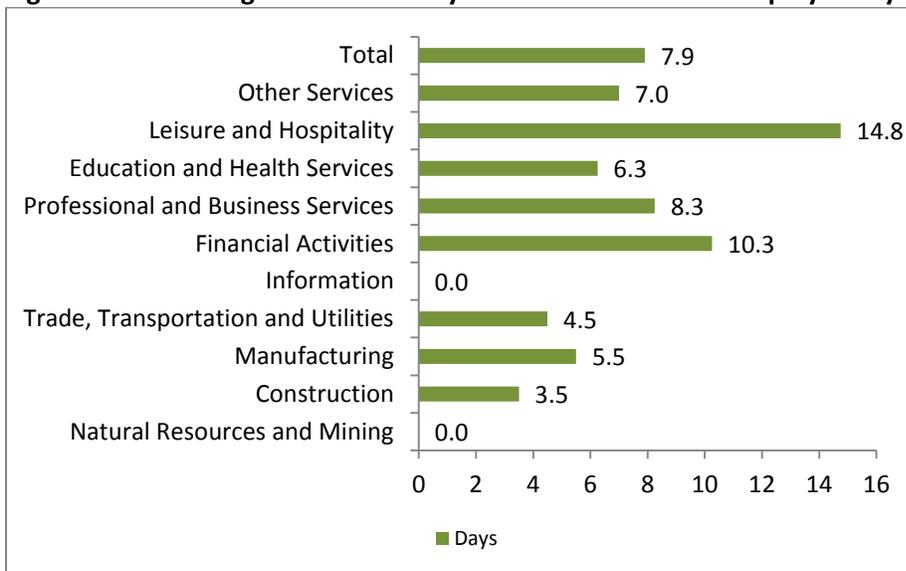


Figure 2-1.3. Average Number of Days of PTO for Part-time Employees by Industry



Region

About 41 percent of green firms in Regions 4 and 7 offer PTO to full-time employees, and 40 percent of Region 6 employers offer PTO, the highest regional shares. As Figure 2-1.4 shows, among the other seven regions, PTO is provided to full-time workers by 25 to 35 percent of companies. Not unexpectedly, across all regions, only between 0 and 20 percent of businesses offer PTO to their part-time employees.

Figure 2-1.5 reveals that Region 2 companies, on average, offer more PTO days to their full-time employees than any other region, with Region 3 and Region 7 employers close behind. The majority of green businesses offering PTO across Alabama provide between 7 and 10 days annually.

Figure 2-1.4. Green Employers Offering Consolidated PTO by Region (percent)

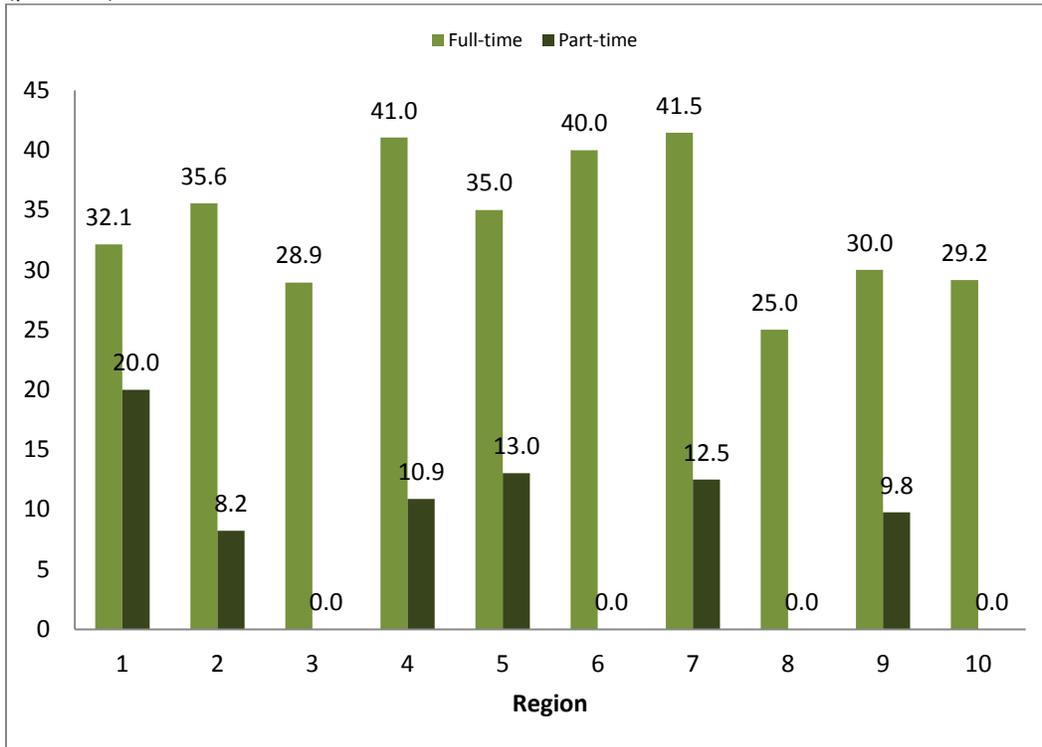


Figure 2-1.5. Average Number of Days PTO for Full-time Employees by Region

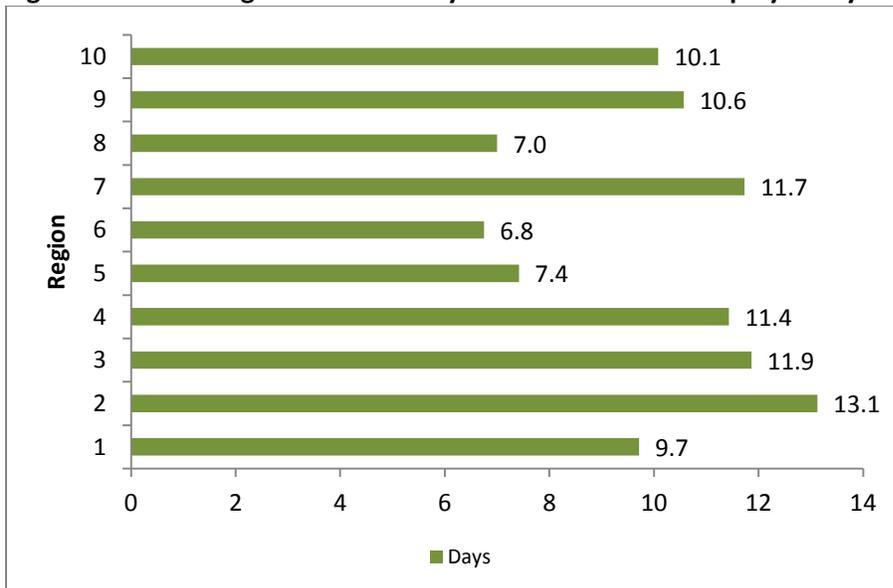
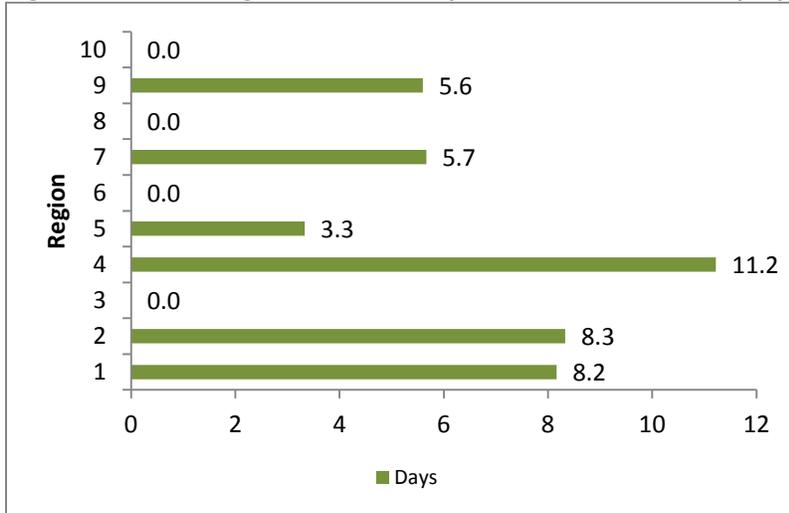


Figure 2-1.6. Average Number of Days PTO for Part-time Employees by Region



Business Size

The percentage of companies offering PTO to full-time employees is similar for businesses of varying sizes. Almost 36 percent of green employers with fewer than five employees and 39 percent with 5-9 workers reported offering PTO to full-time employees. By comparison, 31 percent of firms with 50-99 employees and 35 percent employing 100 or more did so. At 15 days, PTO benefits were most generous at businesses with at least 100 employees, as shown in Figure 2-1.8.

Green businesses employing between 5 and 49 workers are the least likely to offer PTO to part-time employees, with shares ranging from about 5 to 8 percent, while between 10 and 22 percent of all other companies did so. The largest firms are most likely to provide PTO to part-time employees, with employees averaging 12 days of leave, while all others averaged between 4 and 9 days.

Figure 2-1.7. Green Employers Offering Consolidated PTO by Business Size (percent)

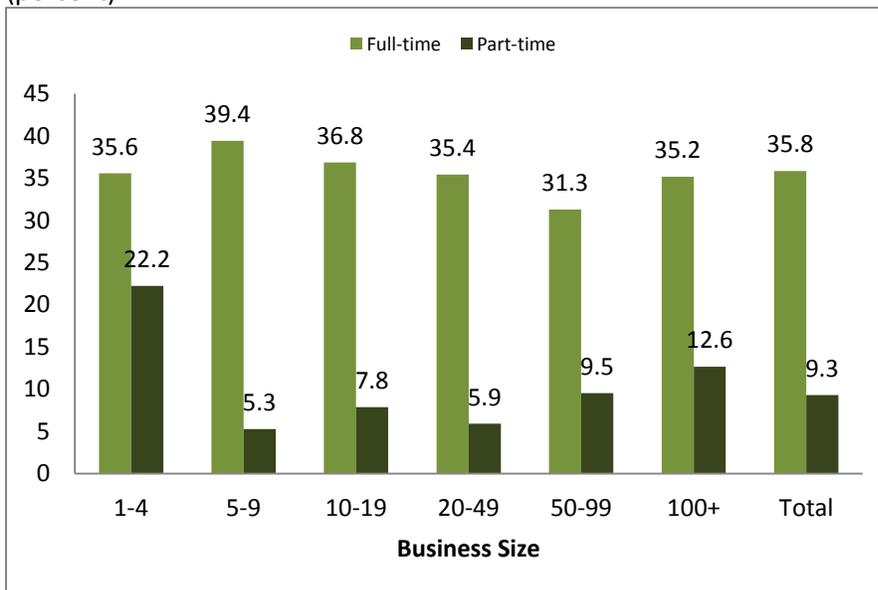


Figure 2-1.8. Average Number of Days PTO for Full-time Employees by Business Size

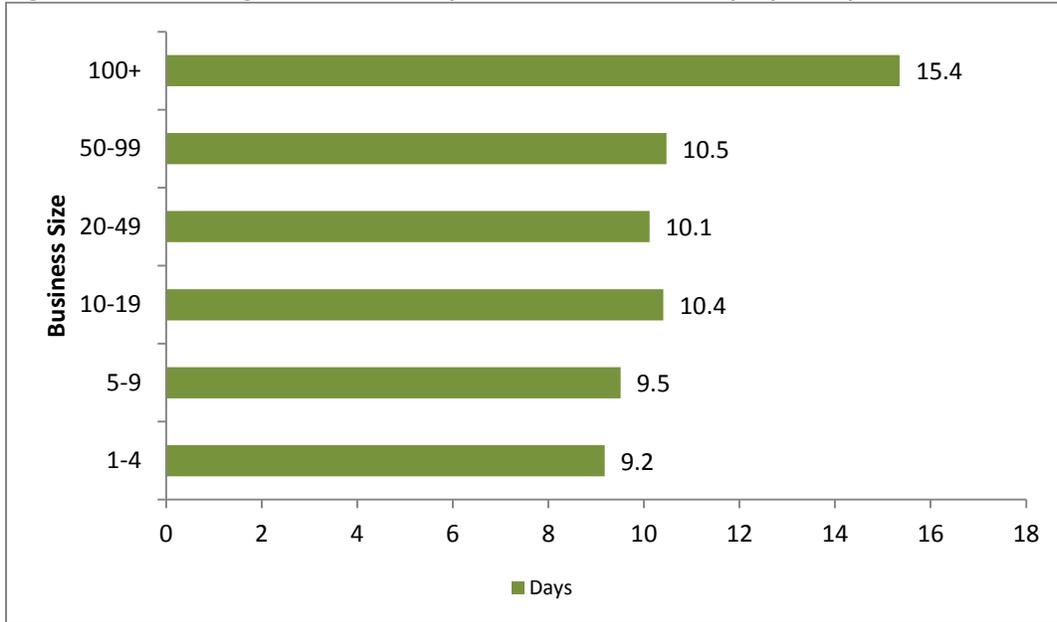
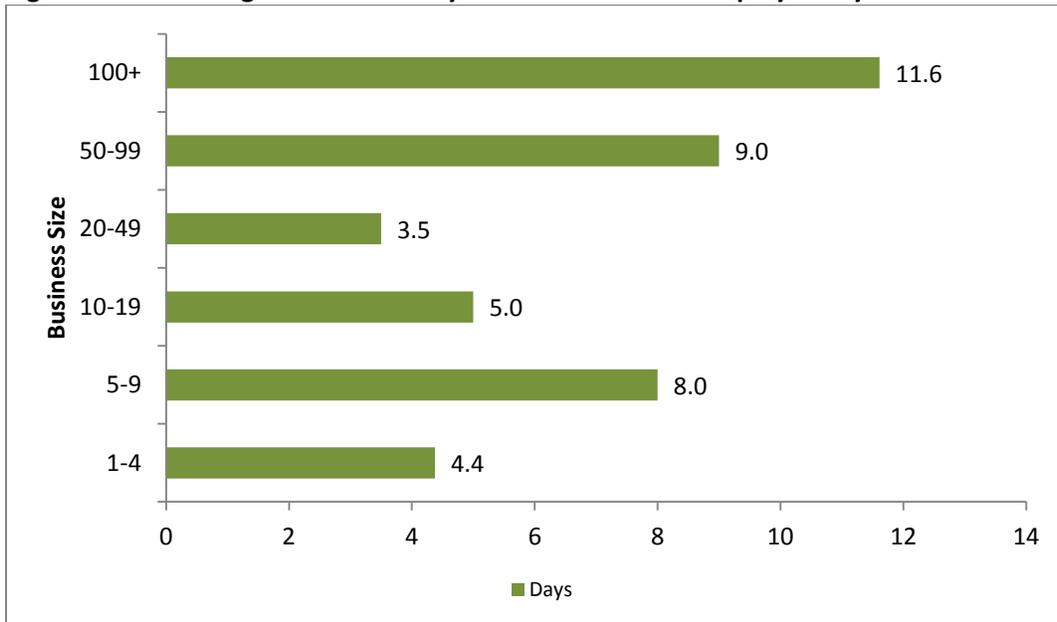


Figure 2-1.9. Average Number of Days PTO for Part-time Employees by Business Size



2-2 Paid Vacation Leave

Industry

In every industry at least 60 percent of green employers offer paid vacation leave to their full-time employees. Shares range from 60 percent in the leisure and hospitality industry to 86 percent in manufacturing and 100 percent in information, as shown in Figure 2-2.1. On average, almost 75 percent of all green employers reported providing paid vacation leave to their full-time employees.

Almost 38 percent of green businesses in professional and business services and 33 percent of businesses in manufacturing reported offering this benefit to part-time employees, rates significantly higher than all other industries. No businesses surveyed in natural resources and information provide paid vacation leave to part-time employees, and only 10 percent of construction firms do so. See Figures 2-2.1, 2-2.2, and 2-2.3 for more details.

Figure 2-2.1. Green Employers Offering Paid Vacation Leave by Industry (percent)

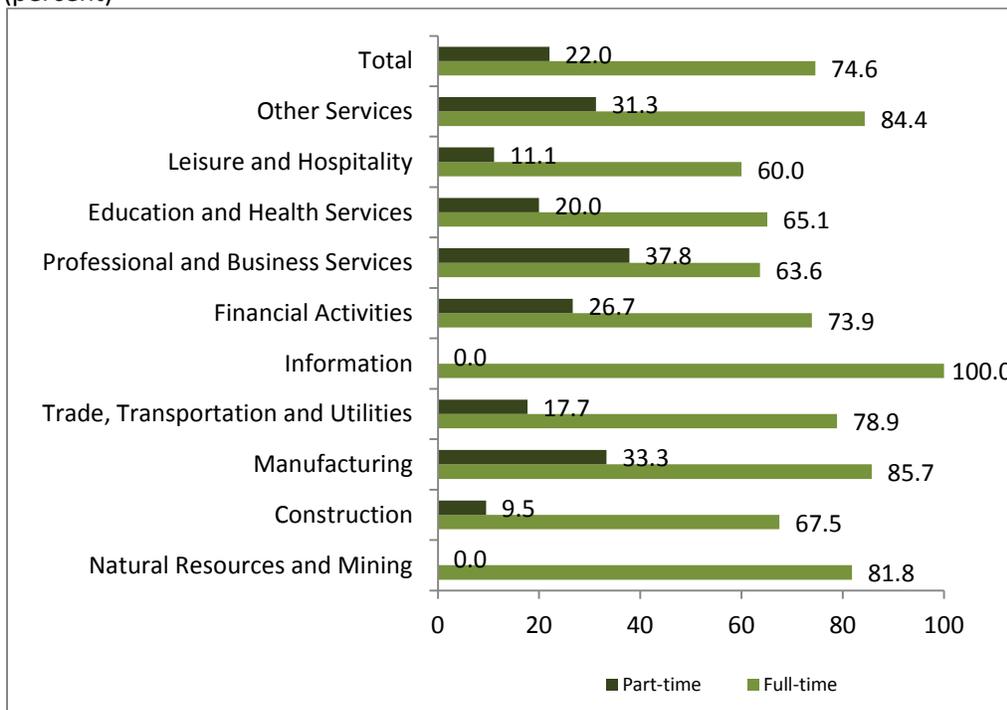


Figure 2-2.2. Paid Vacation Leave for Full-time Employees by Industry

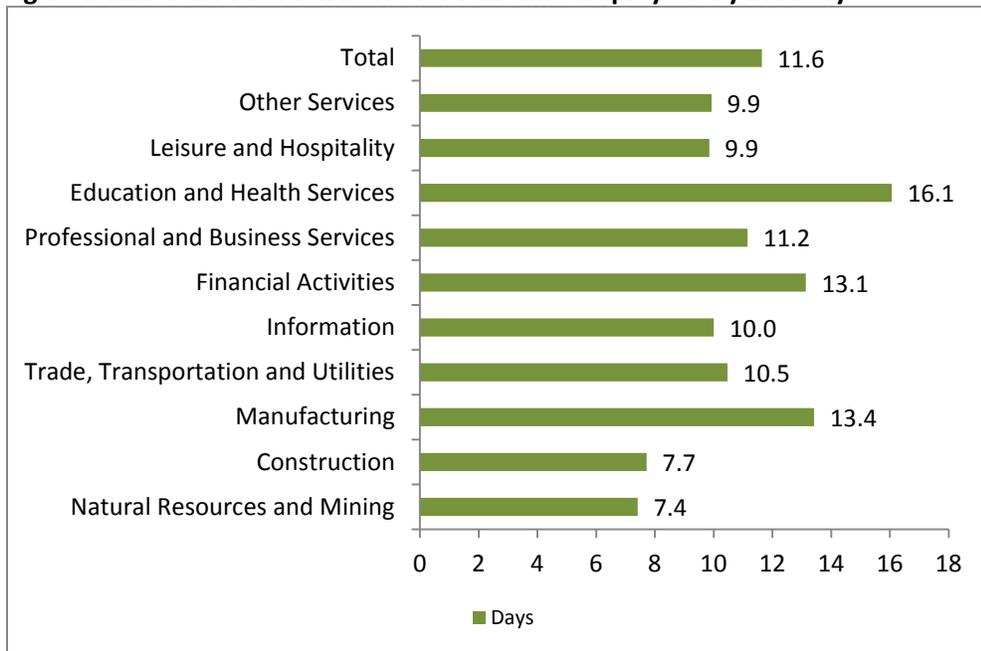
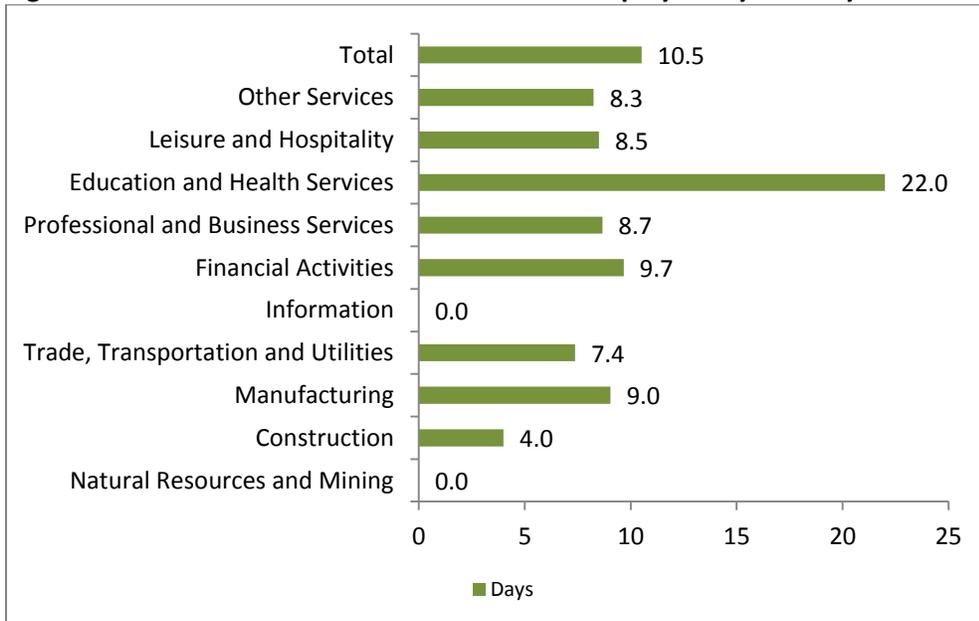


Figure 2-2.3. Paid Vacation Leave for Part-time Employees by Industry



Region

The average proportion of green employers offering paid vacation leave to full-time employees varies considerably across regions, ranging from 63 to 88 percent. In Regions 6 and 8, 88 percent of respondents indicated they offer this benefit; Region 3 was close behind at 82 percent. The two regions with the lowest percentages were Region 7 (63 percent) and Region 9 (71 percent). As is typically the case, fewer companies offer such benefits to their part-time workers. The percentage providing paid vacation leave ranges from 50 percent in Region 8 to no green firms surveyed in Region 6.

Figure 2-2.4. Green Employers Offering Paid Vacation Leave by Region
(percent)

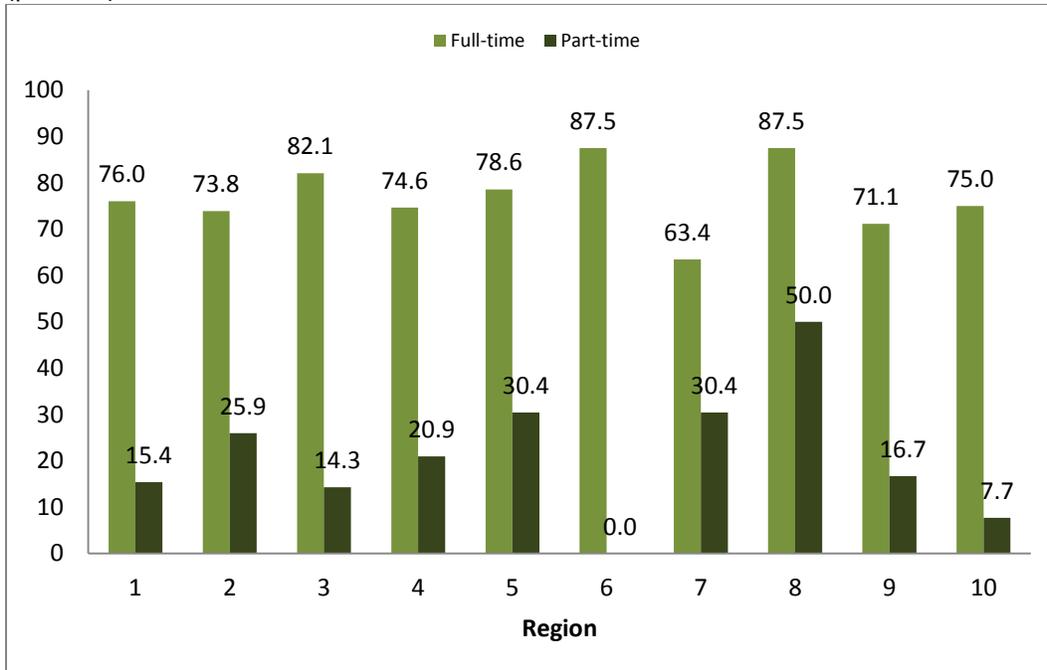


Figure 2-2.5. Paid Vacation Leave for Full-time Employees by Region

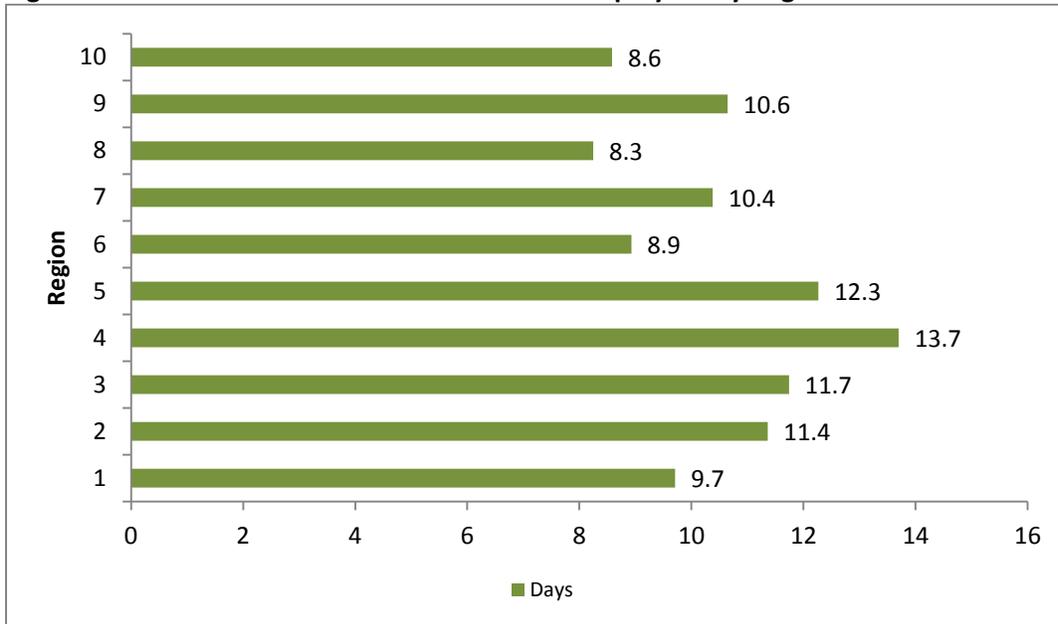
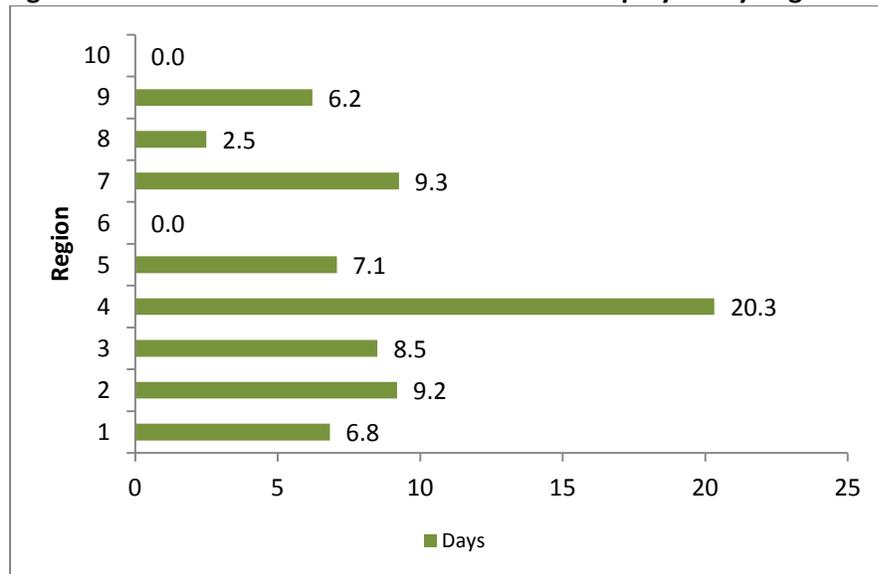


Figure 2-2.6. Paid Vacation Leave for Part-time Employees by Region



Business Size

Just 55 percent of green employers with fewer than five employees offer paid vacation leave to full-time workers. The rate rises steadily with increasing size, as 72 percent of firms with 5-9 employees and 75 percent of those with 10-19 employees offer it. Almost 82 percent of businesses employing 50-99 employees provide paid vacation leave, while 79 percent of green firms employing 100 or more do so. Businesses with fewer than five employees, however, are the most likely to offer paid vacation to part-time workers (33 percent), while 26 percent of businesses with at least 100 employees offer this benefit to their part-time workers. Averages for other business sizes range from 15 to 22 percent. See Figure 2-2.7 for more details.

Larger green businesses are more likely to offer paid vacation leave and they offer on average the most vacation days. Businesses employing 100 or more provide about 16 days of vacation to full-time employees, while businesses of all other sizes offer around 10 days. Firms with at least 100 employees offer the most leave to part-time workers as well. See Figures 2-2.8 and 2-2.9 for more details.

Figure 2-2.7. Green Employers Offering Paid Vacation Leave by Business Size (percent)

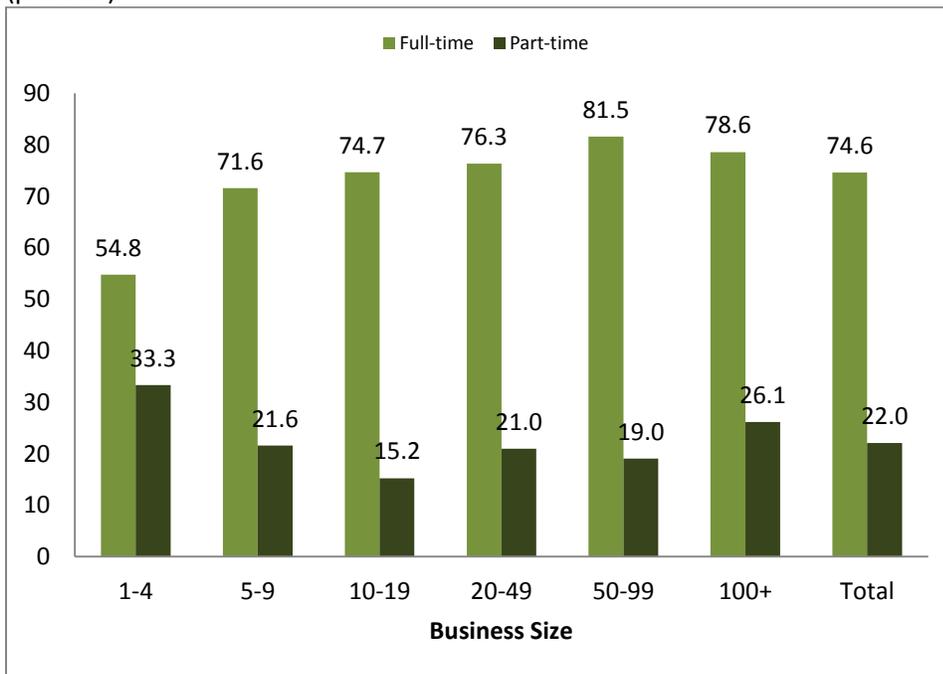


Figure 2-2.8. Paid Vacation Leave for Full-time Employees by Business Size

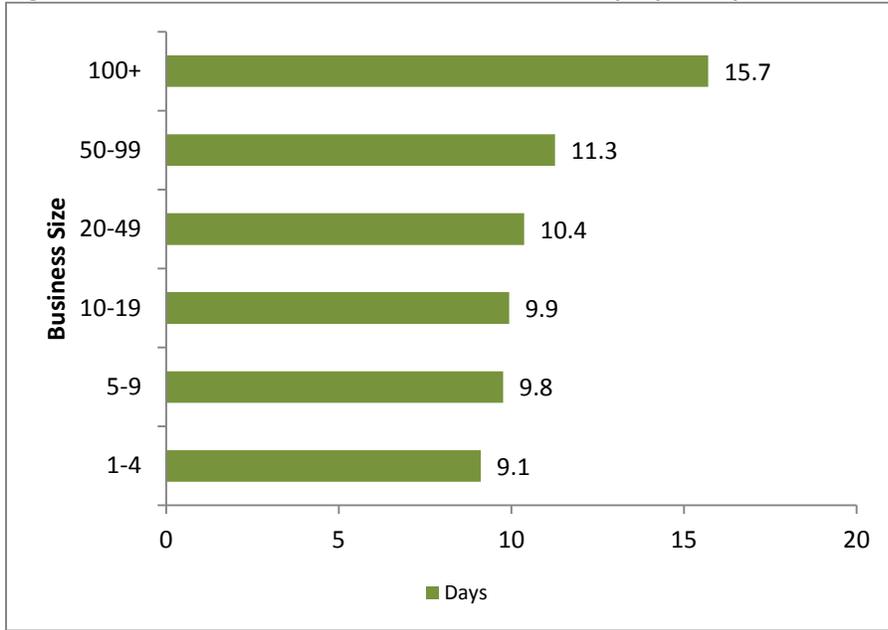
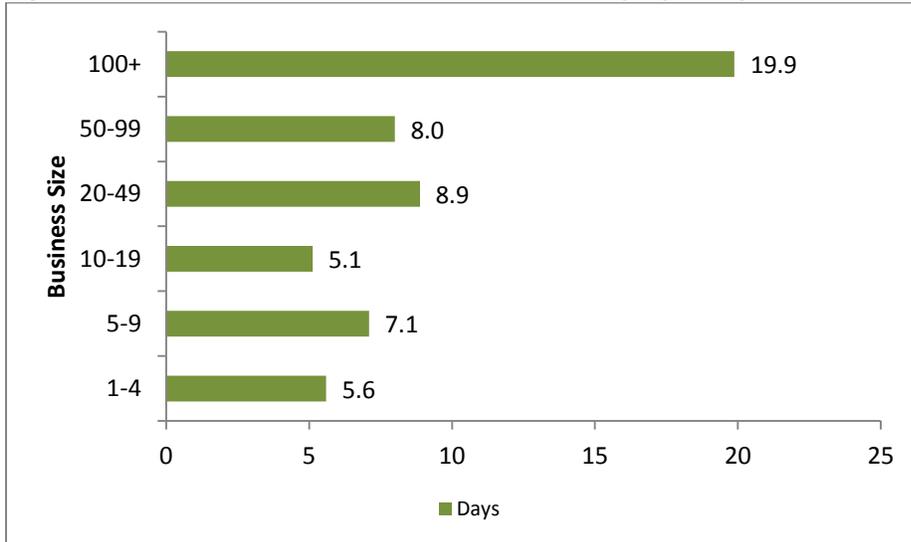


Figure 2-2.9. Paid Vacation Leave for Part-time Employees by Business Size



2-3 Paid Sick Leave

Industry

Forty-six percent of all green employers reported offering paid sick leave to full-time employees. Financial activities had the highest proportion of firms offering this benefit, at 82 percent, with information second at 80 percent. Companies provided paid sick leave least often in the construction (22 percent) and natural resource (27 percent) industries. Part-time workers receive paid sick leave much less often, with about 13 percent of green businesses providing this benefit. They are most likely to have paid sick leave in education and health services (27 percent of employers) and financial activities and other services (19 percent).

For full-time employees of green businesses, sick leave benefits are most generous in the leisure and hospitality sector at 21 days, followed by manufacturing, which averages 15 days. Part-time workers have the largest number of days of sick leave available annually in education and health services (27) and manufacturing (19). See Figures 2-3.1, 2-3.2, and 2-3.3 for more details.

Figure 2-3.1. Green Employers Offering Paid Sick Leave by Industry (percent)

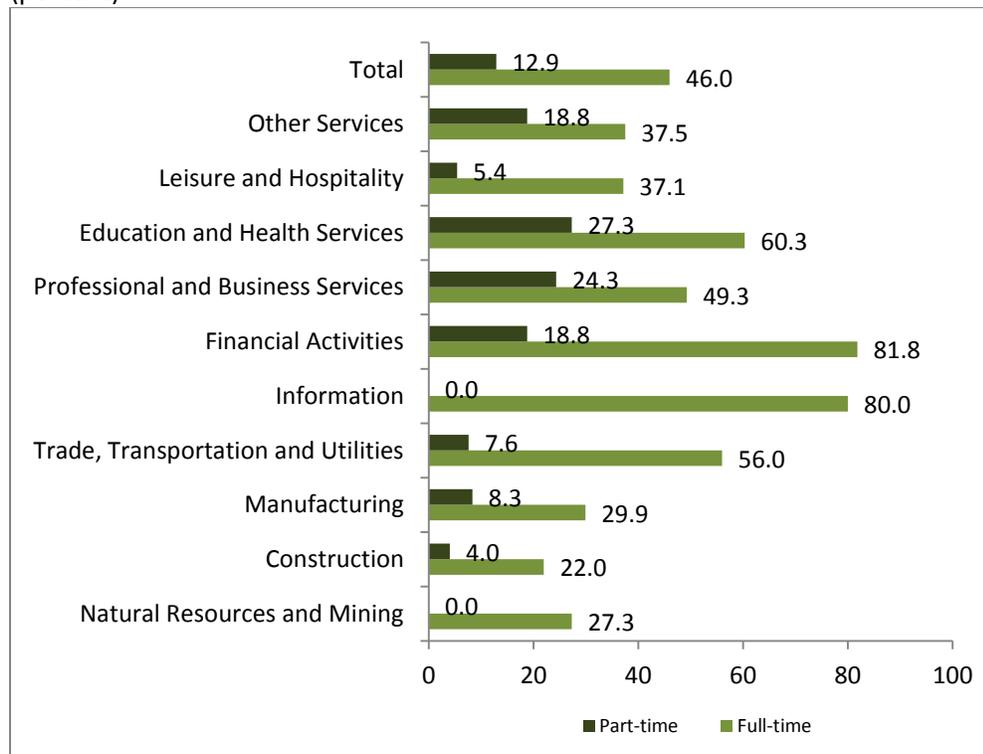


Figure 2-3.2. Paid Sick Leave for Full-time Employees by Industry

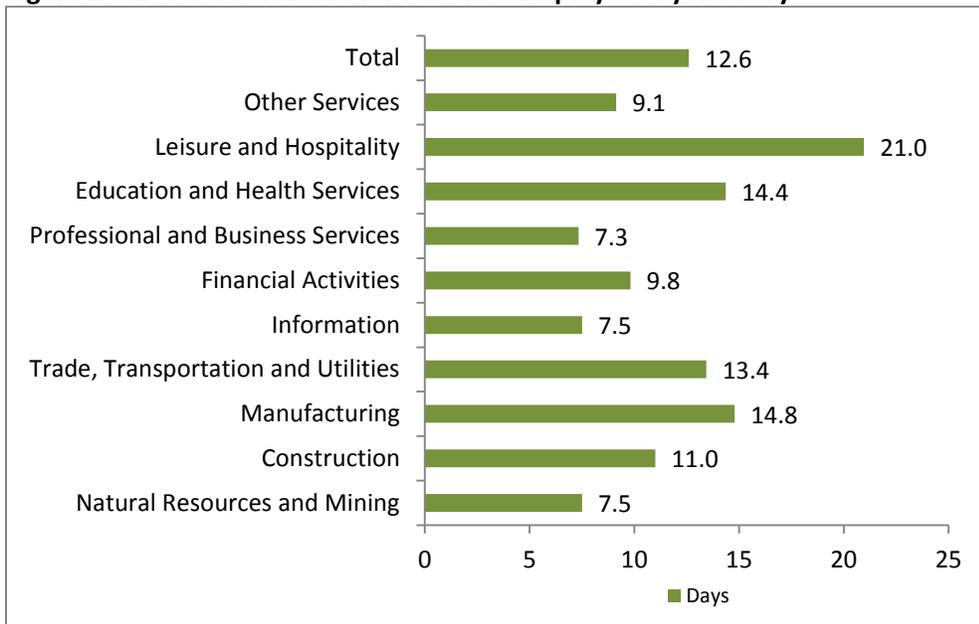
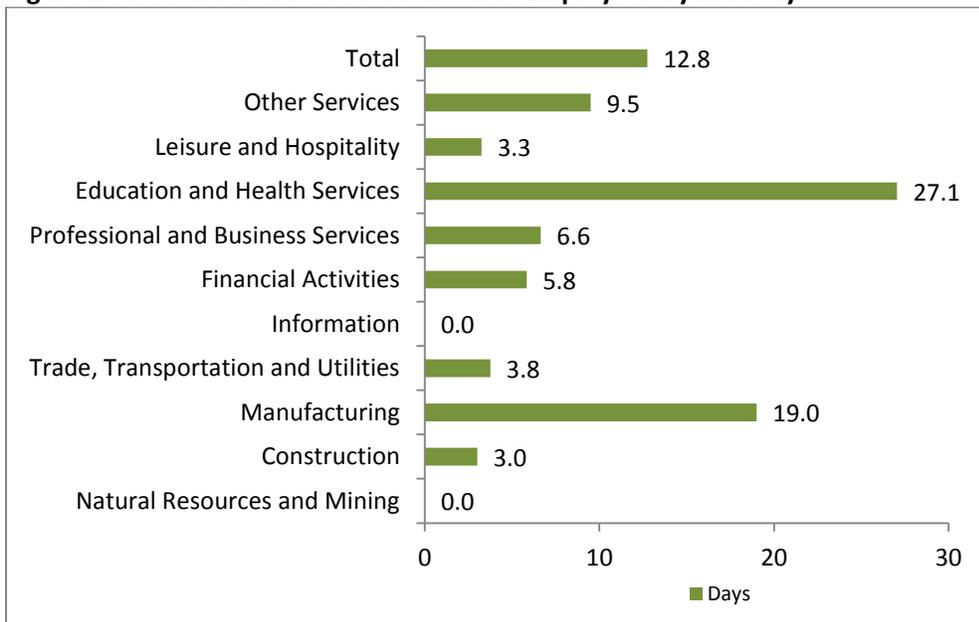


Figure 2-3.3. Paid Sick Leave for Part-time Employees by Industry



Region

Green businesses in Region 5, at 60 percent, are the most likely to offer paid sick leave to full-time employees. They are followed by Region 8 firms, 57 percent of which offer paid sick leave. Averages in the eight other regions range from 35 to 49 percent. Full-time employees in Region 3 receive the largest average number of sick leave days at 23.

Far fewer businesses offer paid sick leave to their part-time employees. Regions 6 and 10 had no respondents that offer it to part-time employees; the highest share was 25 percent in Region 8.

Figure 2-3.4. Green Employers Offering Paid Sick Leave by Region (percent)

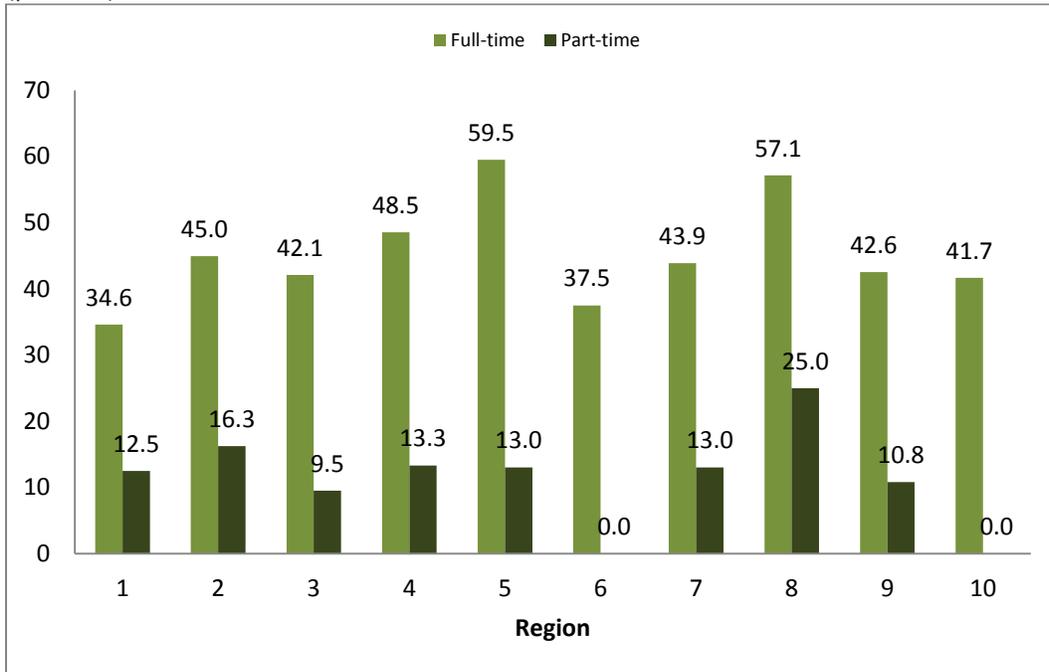


Figure 2-3.5. Paid Sick Leave for Full-time Employees by Region

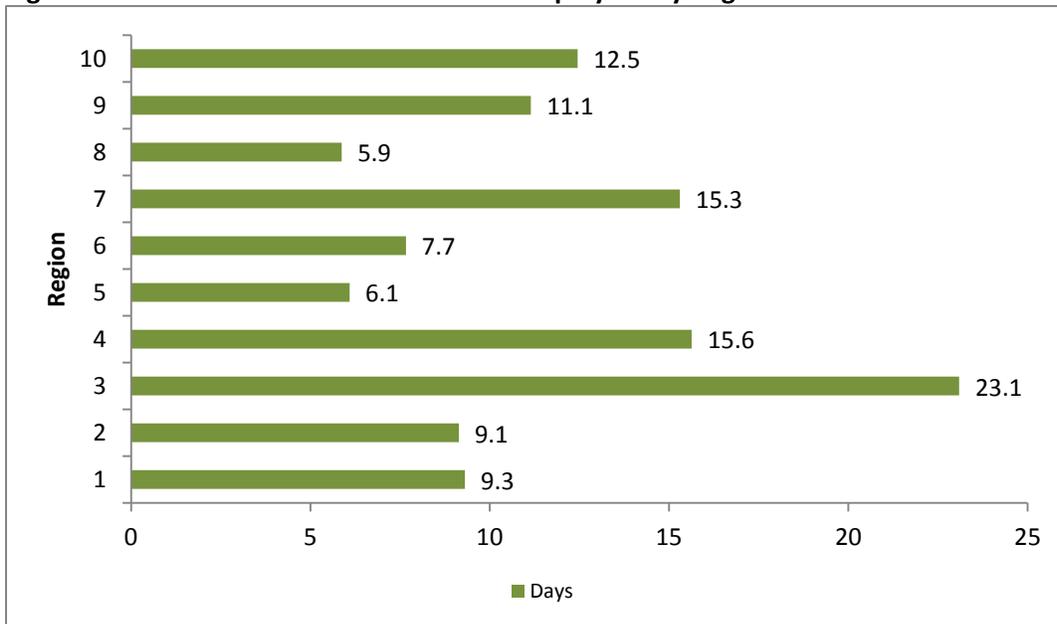
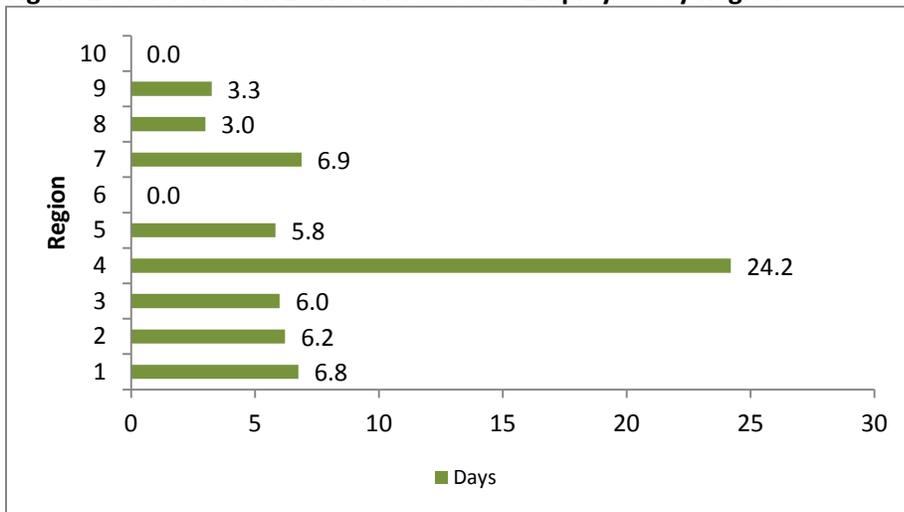


Figure 2-3.6. Paid Sick Leave for Part-time Employees by Region



Business Size

The lowest averages for green firms offering paid sick leave to full-time employees are found in businesses with 20-49 employees, 40 percent of which provide this benefit, and in businesses with fewer than five employees, at 41 percent. Companies with 50-99 employees most often provide paid sick leave (52 percent), above the 47 percent of businesses employing 100 or more that do so. The percentage of firms offering paid sick leave to part-time workers varies little by size of firm—ranging from 11 percent to 17 percent. See Figure 2-3.7 for more details.

The largest companies offer the most paid sick leave on average—green businesses with 50-99 employees offer an average of 13 sick days, and those with at least 100 employees provide 22 days on average. All other firm size categories average between 6 and 10 days. See Figures 2-3.8 and 2-3.9 for detail on number of days of sick leave by size of business for full- and part-time employees.

Figure 2-3.7. Green Employers Offering Paid Sick Leave by Business Size (percent)

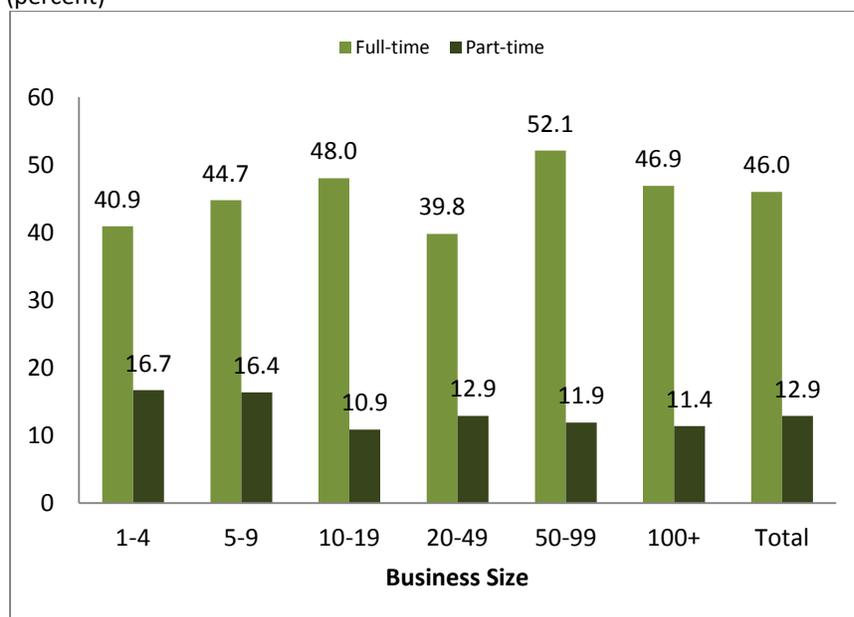


Figure 2-3.8. Paid Sick Leave for Full-time Employees by Business Size

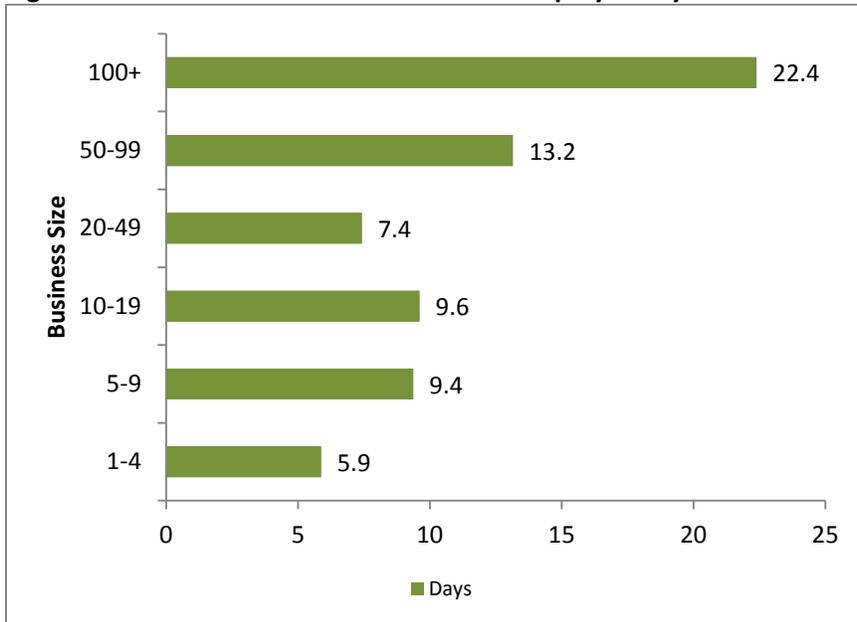
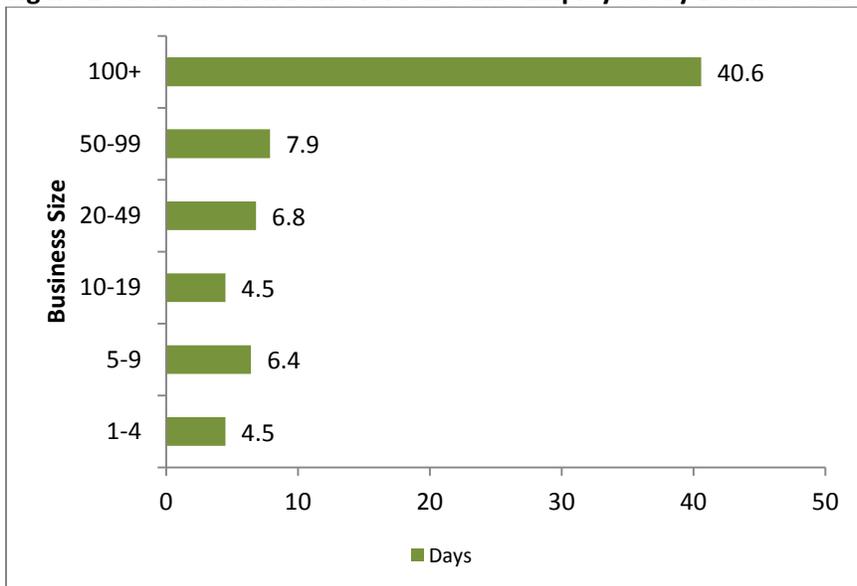


Figure 2-3.9. Paid Sick Leave for Part-time Employees by Business Size



2-4 Paid Holidays

Industry

All green employers surveyed in the information and financial activities industries offer paid holidays to full-time employees, the highest rates of any industries. Firms in manufacturing (94 percent) and trade, transportation, and utilities (93 percent) are also more likely to offer paid holidays to full-time workers than all other industries. Companies in leisure and hospitality are the least likely to provide paid holiday time to full-time employees, with just 54 percent doing so.

Far fewer employers in any industry offer part-time employees paid holidays, with the information and natural resources and mining industries having no respondents indicate that they do so. The highest proportions giving part-time workers paid holidays are in other services (53 percent) and financial activities and professional and business services (both 50 percent). See Figures 2-4.1, 2-4.2, and 2-4.3 for more details.

Figure 2-4.1. Green Employers Offering Paid Holidays by Industry
(percent)

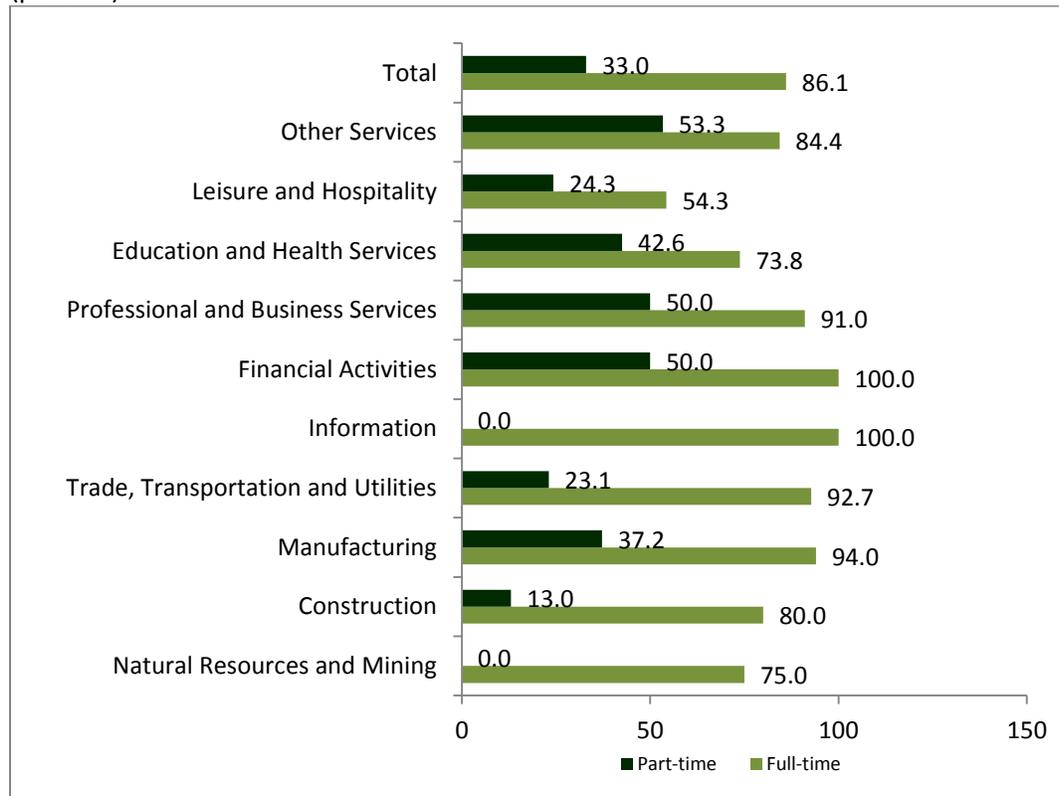


Figure 2-4.2. Paid Holidays for Full-time Employees by Industry

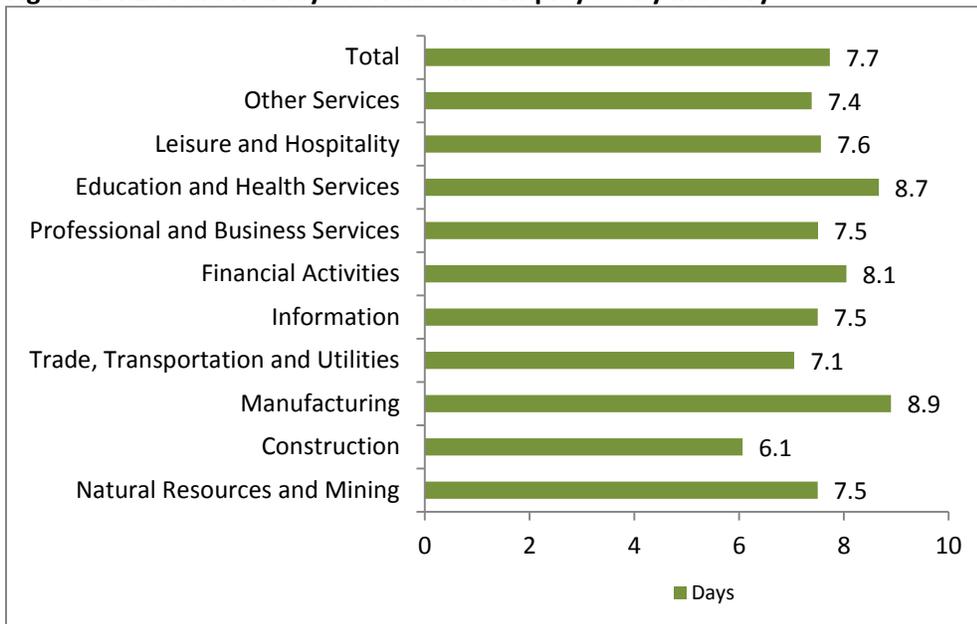
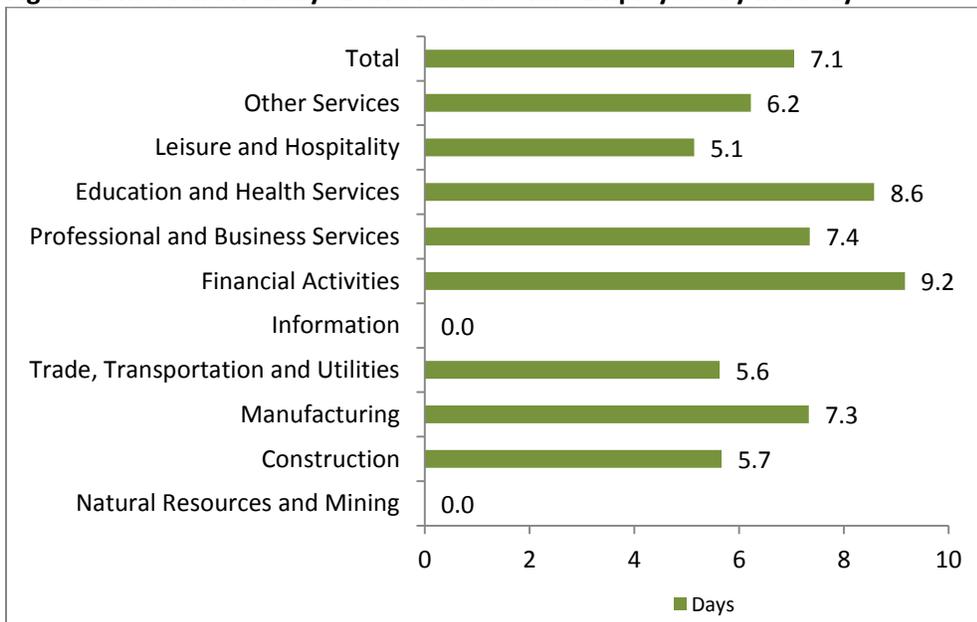


Figure 2-4.3. Paid Holidays Leave for Part-time Employees by Industry



Region

Proportions of companies offering paid holidays to full-time workers are generally between 80 and 90 percent across regions. Exceptions to this are Region 6, where 100 percent of green employers surveyed offer this benefit, and Regions 8 and 10, where percentages of 63 and 71, respectively, are lower than other regions. Fewer firms offer paid holidays to their part-time employees, with most regions falling into the 30 to 50 percent range. However, no businesses responding from Region 6 provide paid holidays to part-time workers, and just 18 percent in Region 10 do so.

Figure 2-4.4. Green Employers Offering Paid Holidays by Region (percent)

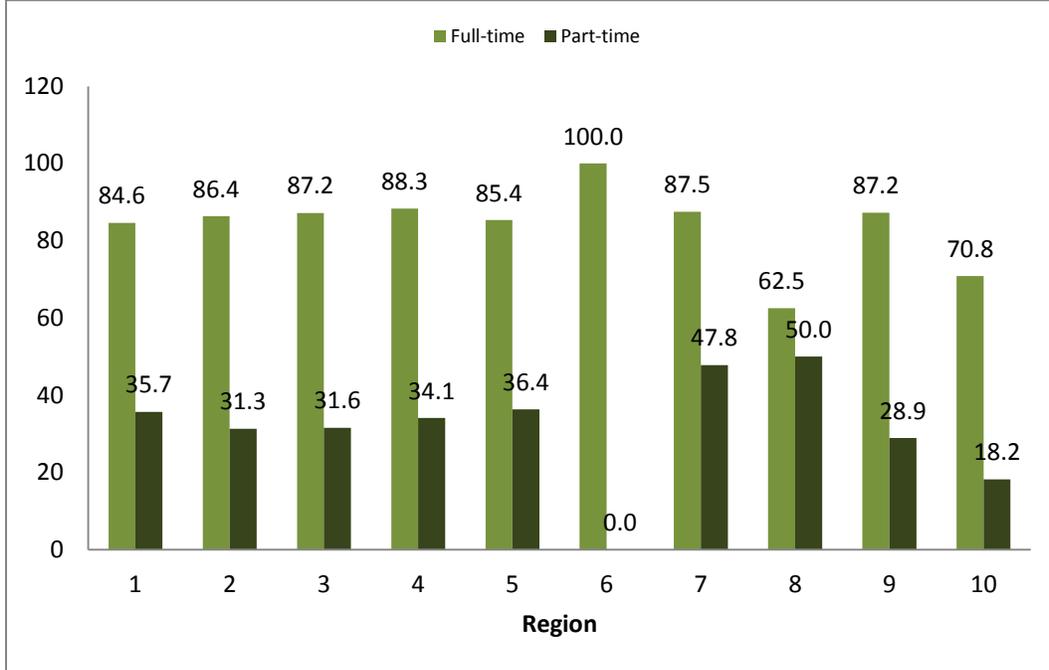


Figure 2-4.5. Paid Holidays for Full-time Employees by Region

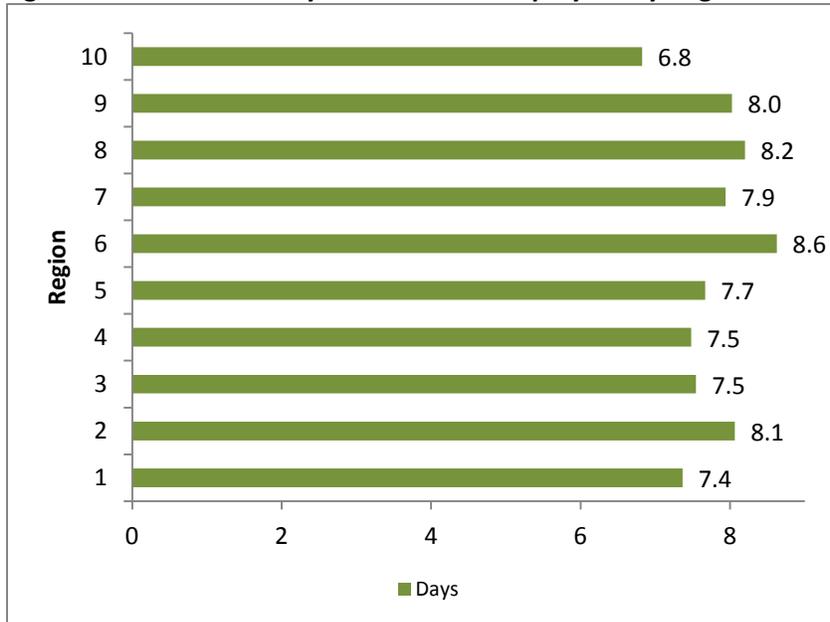
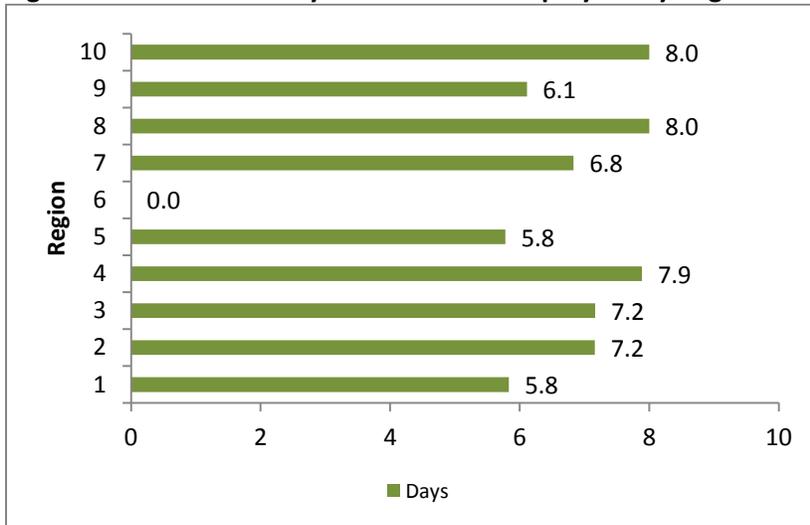


Figure 2-4.6. Paid Holidays for Part-time Employees by Region



Business Size

Overall, 86 percent of employers reported offering paid holiday leave to full-time employees—ranging from 80 percent of companies with fewer than five employees to 90 percent with 10-19 and 50-99 employees. Percentages were similar across business size categories for full-time workers. The smallest companies (those with less than five employees) are by far the most likely to offer paid holidays to part-time employees, but proportions are similar for all other business sizes, ranging from 24 to 37 percent.

The number of paid holidays for full-time workers is similar across business sizes, with most giving 7 or 8 days. Those with 100 or more employees, however, provide an average of 9 paid holidays. See Figures 2-4.7, 2-4.8, and 2-4.9 for complete details on paid holidays offered by size of business.

Figure 2-4.7. Green Employers Offering Paid Holidays by Business Size (percent)

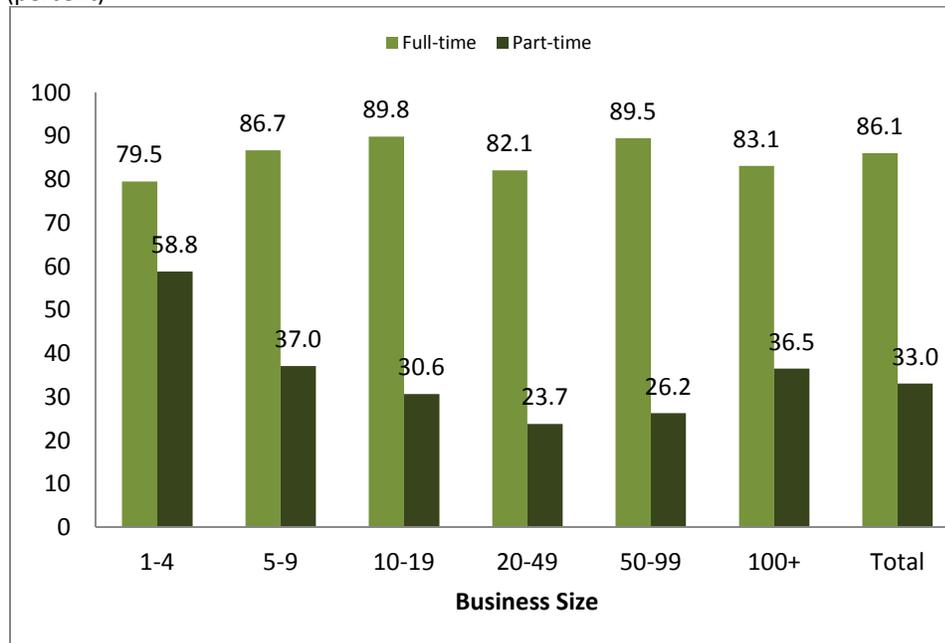


Figure 2-4.8. Paid Holidays for Full-time Employees by Business Size

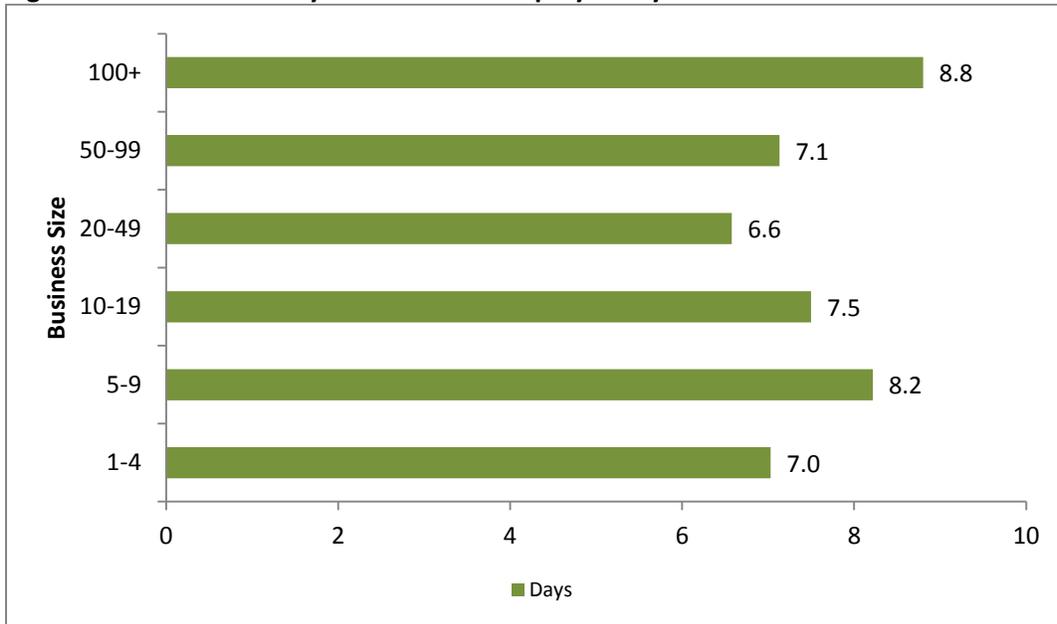
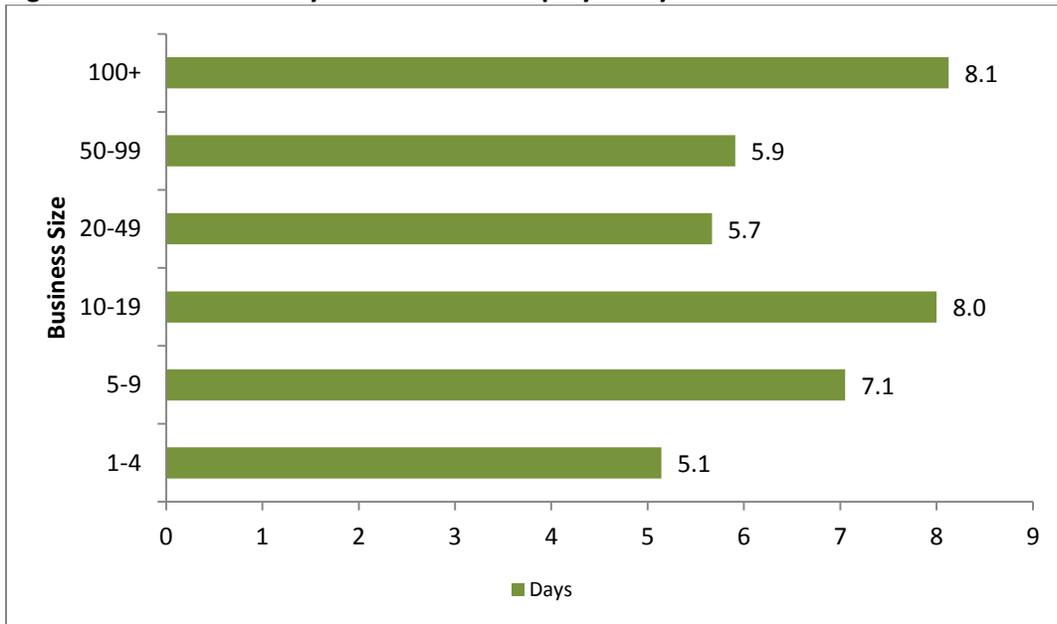


Figure 2-4.9. Paid Holidays for Part-time Employees by Business Size



Section 3. Retirement

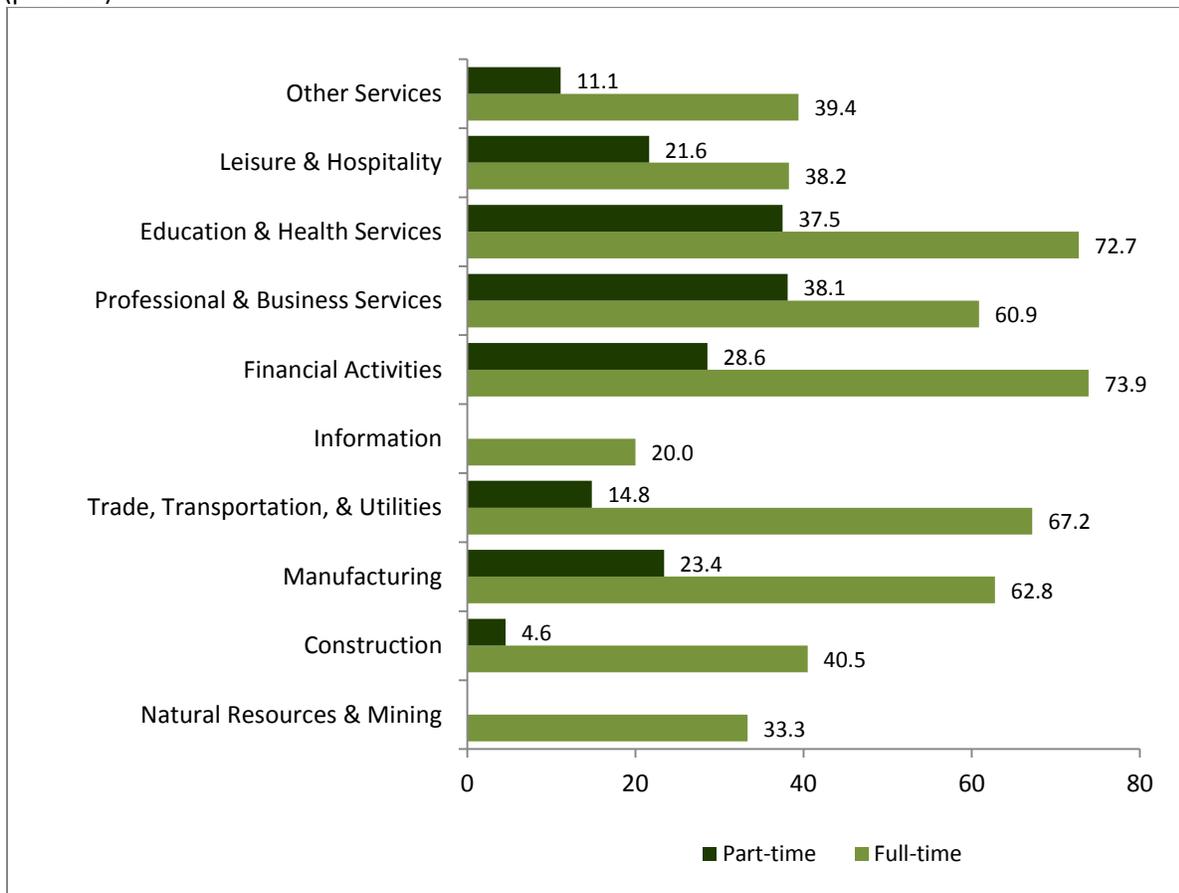
3-1 Retirement Plan

Industry

About 59 percent of all green employers offer a retirement plan to full-time employees. There is considerable variation in the percentage of businesses in each industry providing retirement benefits for full-time employees. Seventy-four percent of employers in the financial services industry and 73 percent in education and health services offer retirement plans, while only 20 percent of the state's green firms in information and 33 percent in natural resources offer this benefit to full-time employees, as shown in Figure 3-1.1.

Overall, 23 percent of employers have a retirement plan benefit for part-time workers. Industries with the highest proportion of companies offering a part-time retirement benefit are professional and business services and education and health services (both 38 percent) and financial activities (29 percent).

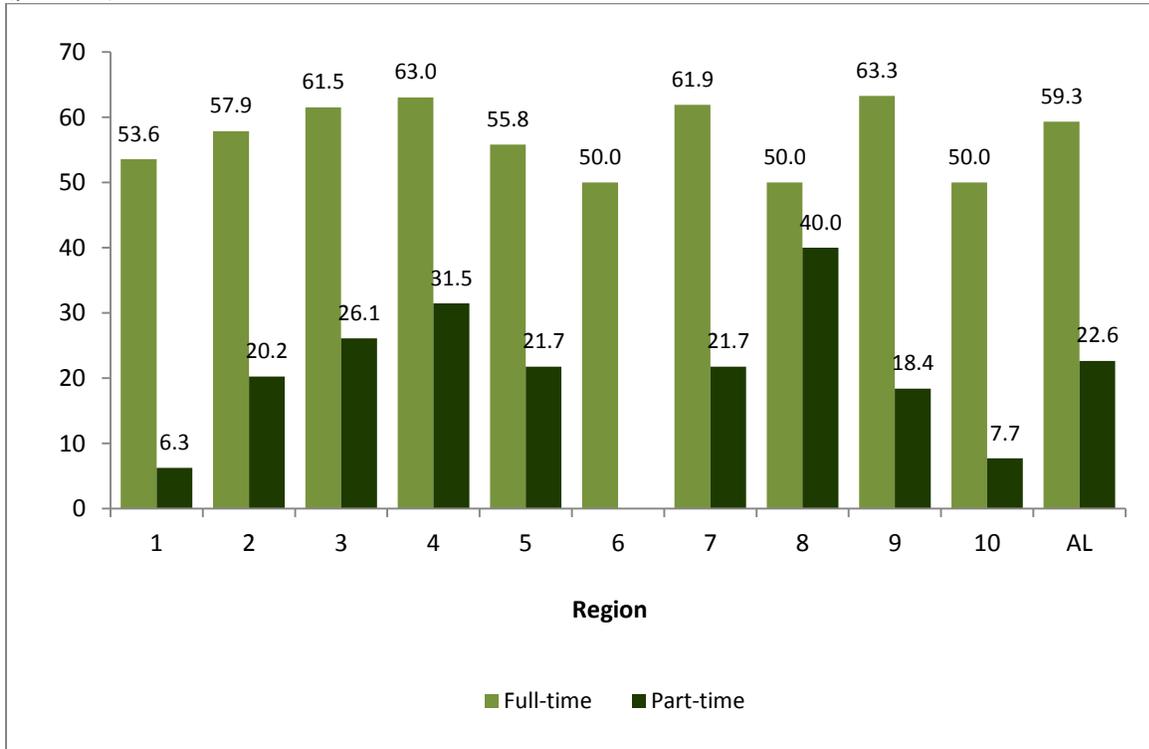
Figure 3-1.1. Green Employers Providing a Retirement Plan to Employees by Industry (percent)



Region

The percentage of companies offering retirement plans for their full-time employees is relatively static between regions, ranging from a high of 63 percent in Regions 4 and 9 to lows of 50 percent in Regions 6, 8, and 10. Region 8 and Region 4 companies are most likely to offer retirement plans to part-time employees, at 40 percent and 32 percent, respectively.

Figure 3-1.2. Green Employers Providing a Retirement Plan to Employees by Region
(percent)

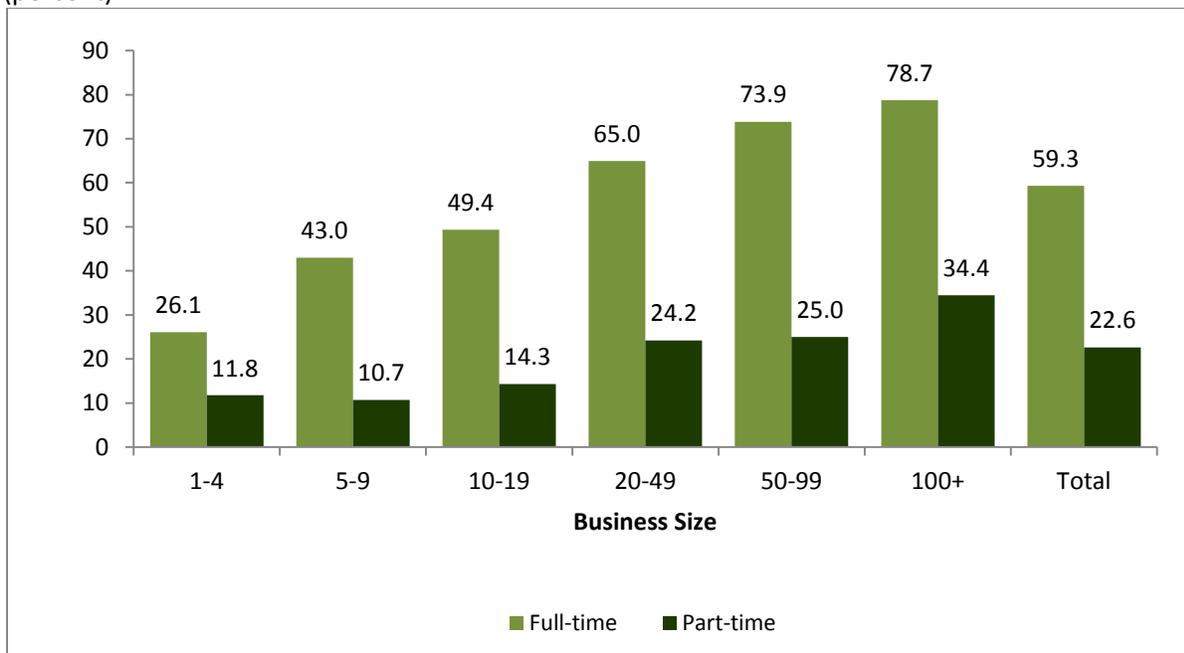


Business Size

The size of an employer is a good indicator of whether or not retirement options will be offered to both full- and part-time employees. Almost 74 percent of green employers with 50-99 employees and 79 percent of firms employing 100 or more offer some type of retirement plan to full-time employees. In contrast, just 26 percent of businesses with fewer than five employees and 43 percent of those with 5-9 workers provide retirement benefits for full-time workers.

While across all business sizes, 23 percent of green employers offer a retirement plan to their part-time employees, 34 percent of employers with at least 100 employees offer this benefit. Far fewer smaller companies provide a retirement plan to part-time workers –just 12 percent of those with less than five employees and 11 percent of businesses with 5-9 employees. See Figure 3.1.3 for more details.

Figure 3-1.3. Green Employers Providing a Retirement Plan to Employees by Business Size
(percent)



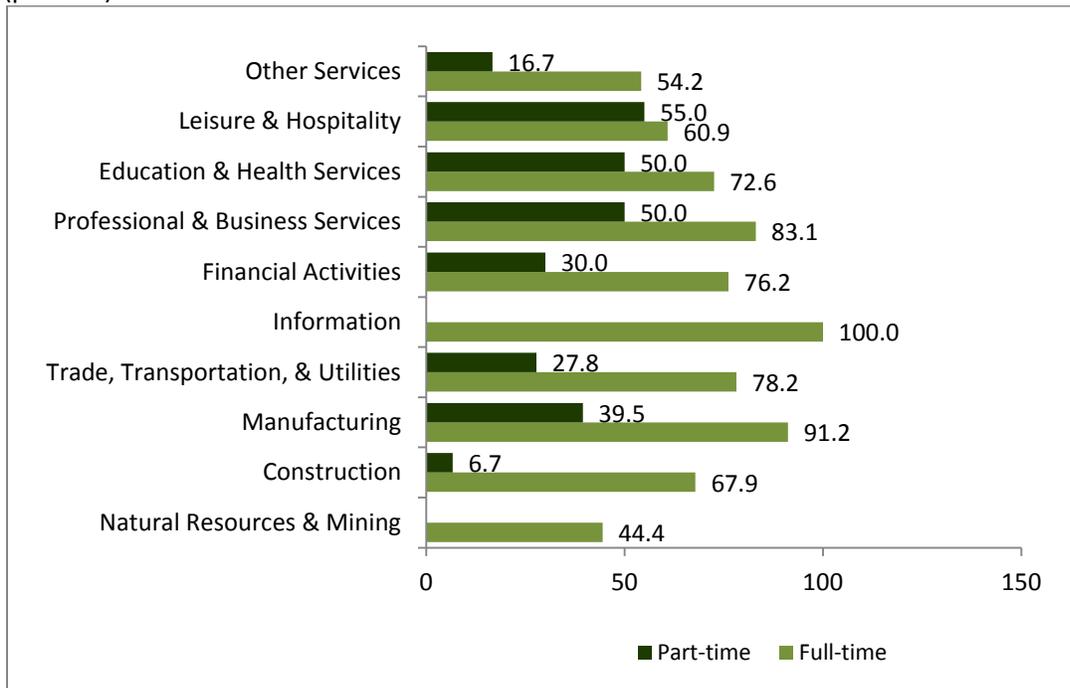
3-2 Defined Contribution Retirement Plan

Industry

Among green employers responding to the survey question about whether they offer a defined contribution retirement plan, about 77 percent make this type of plan available to full-time employees. It should be noted that the raw number of respondents offering this type of retirement plan is higher than the number responding that they offer a retirement plan at all; therefore, these data may inaccurately measure retirement plan provision among Alabama green activity businesses.

All employers in the small information sample with retirement plans offer this type of plan, while 91 percent of manufacturing employers do so, making them the next most likely. They are followed by professional and business services, in which 83 percent of employers offer a defined contribution retirement plan. Employers in natural resources and mining (44 percent) and leisure and hospitality (61 percent) are least likely to offer this benefit to full-time employees.

Figure 3-2.1. Green Employers Providing a Defined Contribution Retirement Plan by Industry (percent)



Despite offering this benefit to full-time workers less often than employers in most other industries, leisure and hospitality employers are the most likely to have defined contribution retirement plans for part-time employees, with 55 percent doing so. Half of education and health services and professional and business services firms offer this benefit, while no companies surveyed in natural resources and information provide this type of retirement plan to part-time employees. The majority of companies that offer defined contribution retirement plans pay for them jointly with both full-time (79 percent) and part-time (70 percent) workers. See Figures 3-2.2 and 3-2.3 for details.

Figure 3-2.2. Source of Defined Contribution Retirement Plan for Full-time by Industry

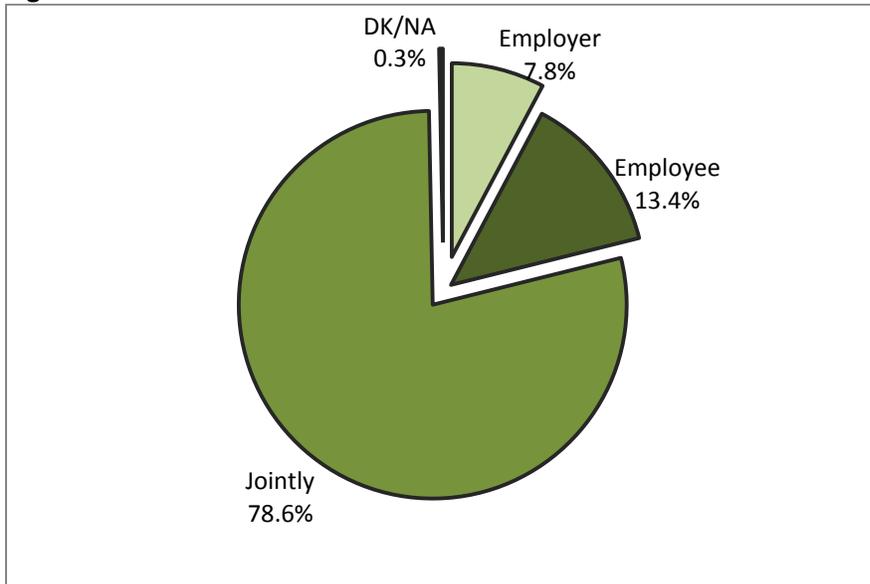
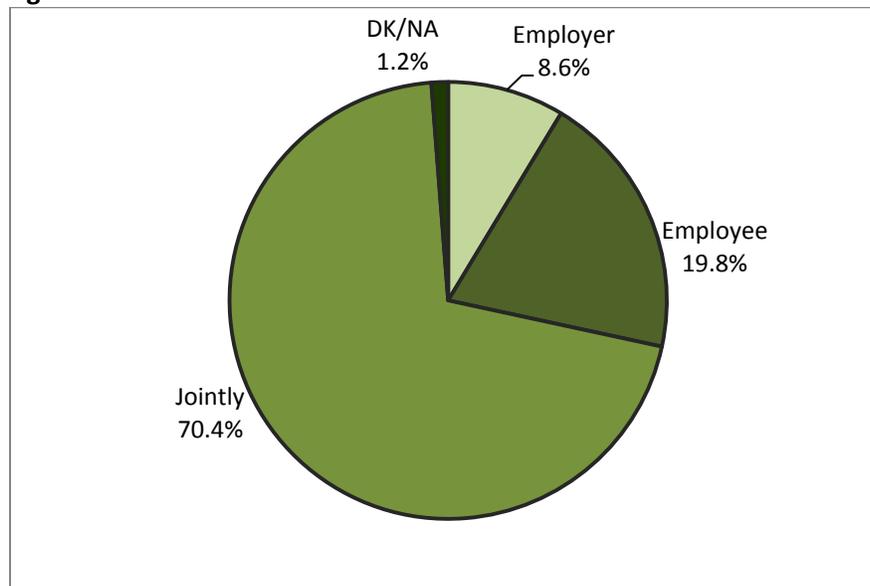


Figure 3-2.3. Source of Defined Contribution Retirement Plan for Part-time by Industry

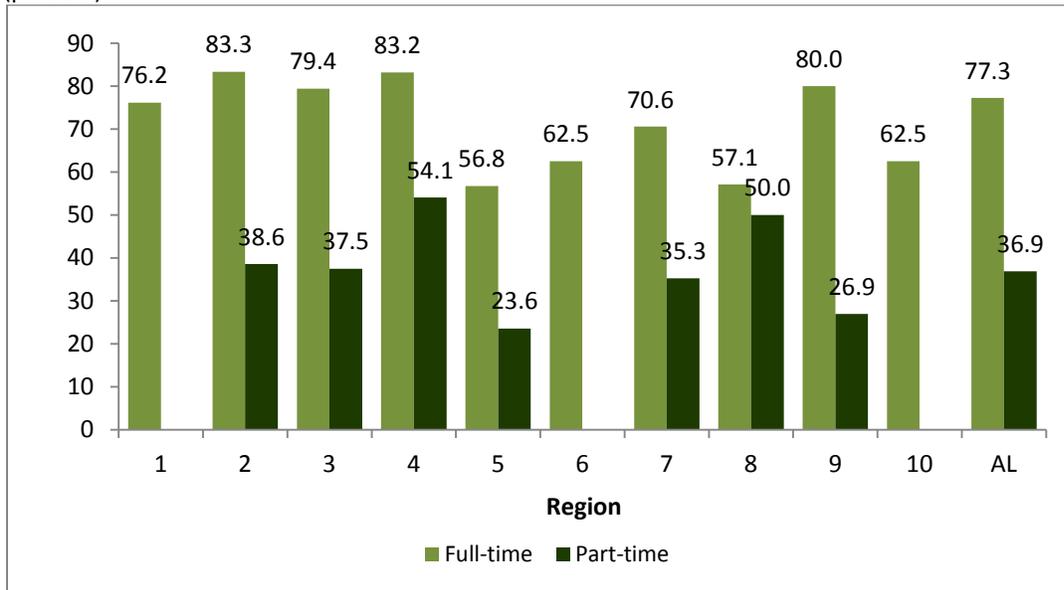


Region

The highest proportions of green employers offering a defined contribution retirement plan to full-time employees are found in Regions 2 and 4, where 83 percent of employers do so. There is a fair amount of variation between regions on this measure, with the lowest shares found in Regions 5 and 8 (57 percent).

Around 54 percent of businesses in Region 4 and 50 percent in Region 8 offer their part-time employees defined contribution plans. Regions 1, 6, and 10 have no employers that offer this benefit to part-time employees.

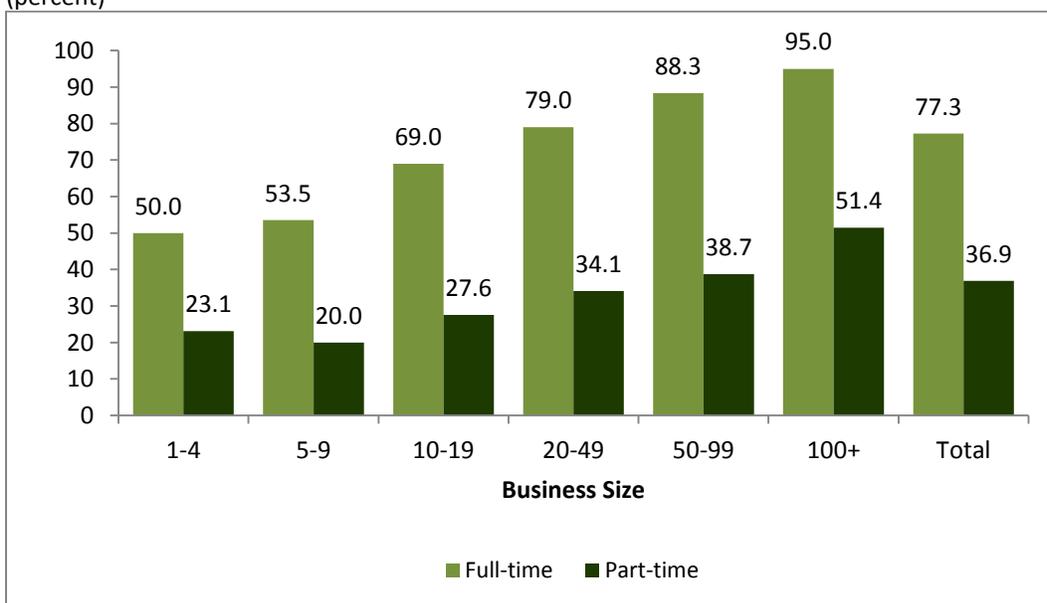
Figure 3-2.4. Green Employers Providing a Defined Contribution Retirement Plan by Region (percent)



Business Size

Not surprisingly, as business size increases, so does the number of employers offering both part- and full-time employees a defined contribution retirement plan. Seventy-nine percent of employers with 20-49 employees, 88 percent with 50-99 employees, and 95 percent of employers with 100 or more employees provide this benefit, while just 50 percent of firms employing fewer than five do. This pattern holds for part-time employees as well, as 39 percent of employers with 50-99 employees and 51 percent of those with at least 100 employees provide defined contribution retirement plans, while only 23 percent of employers with 1-4 employees do. See Figure 3-2.5 for details.

Figure 3-2.5. Green Employers Providing a Defined Contribution Retirement Plan by Business Size (percent)

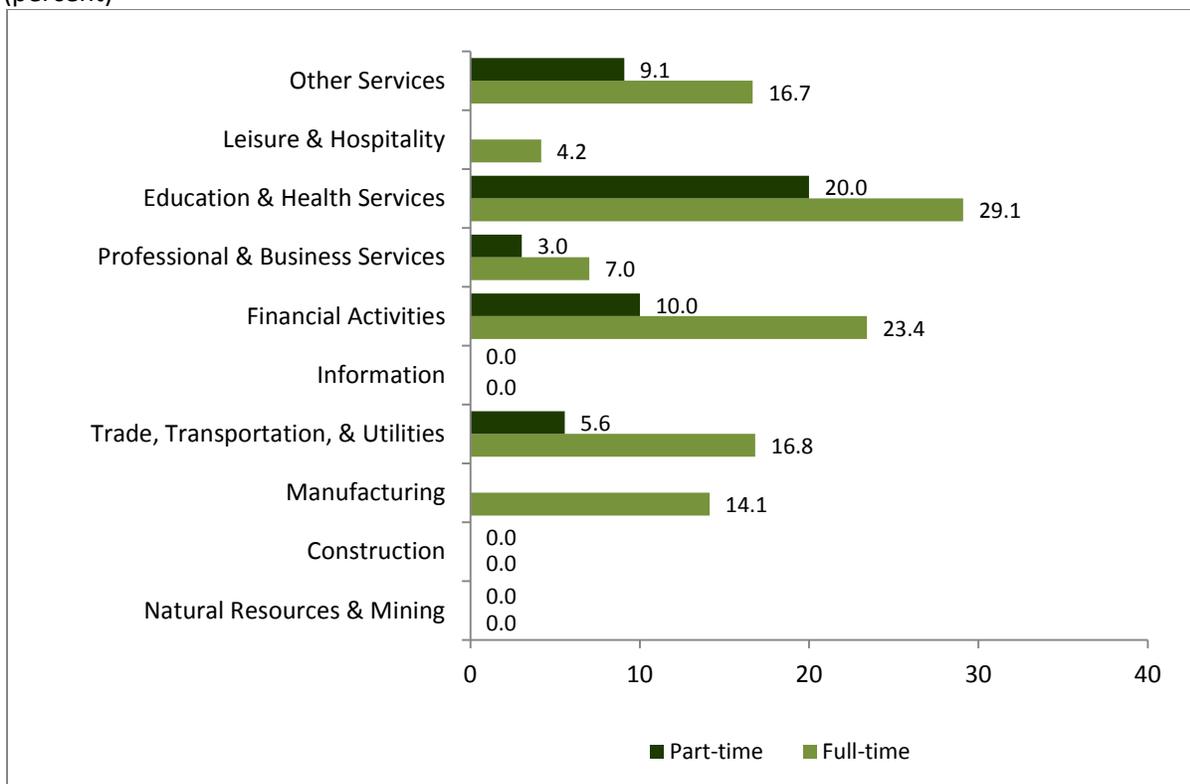


3-3 Defined Benefit Pension Retirement Plan

Industry

It is relatively uncommon for employers to offer defined benefit pension plans in Alabama, as only about 15 percent of green firms do so for full-time employees, and only 6 percent provide a pension plan for part-time employees. Education and health services and financial activities companies most commonly provide this benefit to full-time workers—29 and 23 percent of green businesses responding to the survey question, respectively. For several industries, no company surveyed reported offering a pension plan. Even fewer companies provide this benefit to part-time workers, with the highest proportion doing so found in education and health services (20 percent). See Figure 3-3.1 for information on this benefit for all industries.

Figure 3-3.1. Green Employers Providing a Defined Benefit Pension Plan by Industry (percent)



The vast majority of green employers offering a defined benefit pension retirement plan either pay the full cost themselves or pay jointly with employees. For full-time employees, half of employers surveyed pay the entire cost of such plans, and another 44 percent share the costs with the employee. A similar pattern exists for the small proportion of part-time employees receiving this benefit, with 47 percent of employers paying the full cost, and 47 percent paying the cost jointly with the employee.

Figure 3-3.2. Source of Defined Benefit Pension Retirement Plan for Full-time by Industry

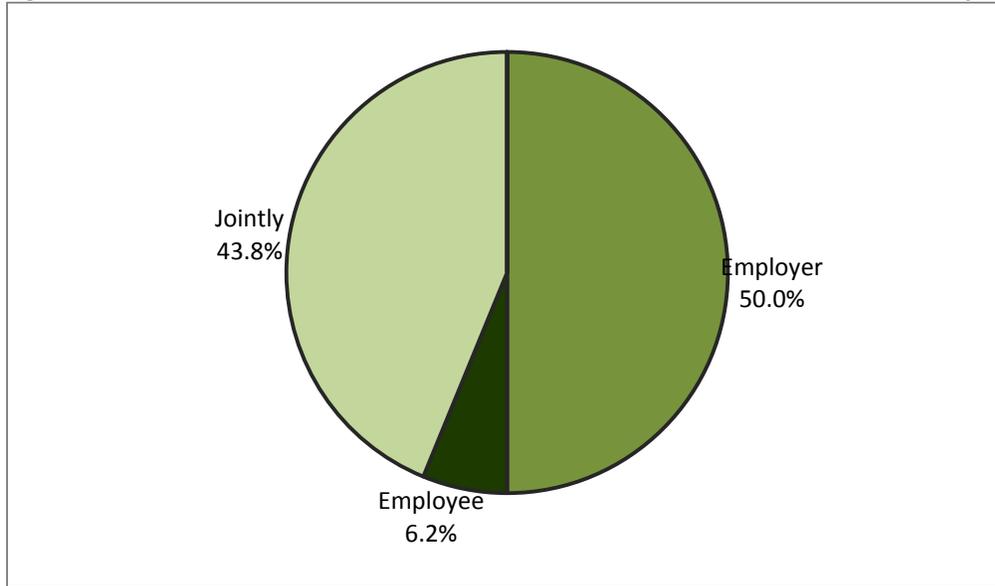
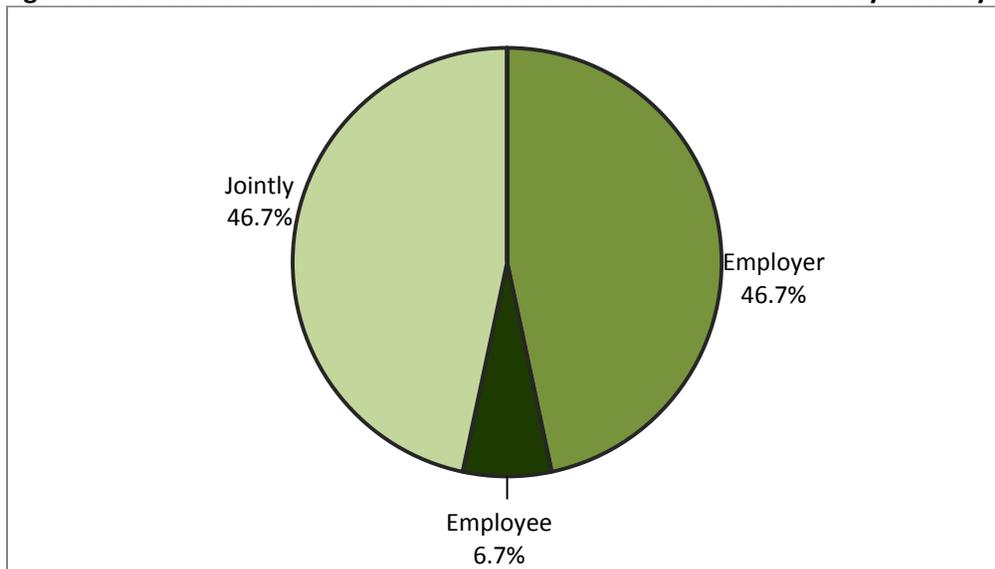


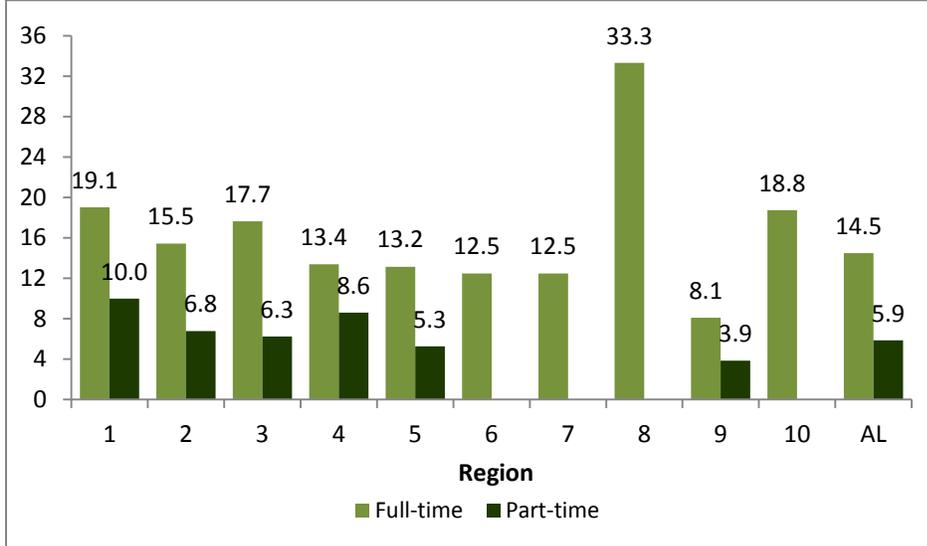
Figure 3-3.3. Source of Defined Benefit Retirement Plan for Part-time by Industry



Region

As noted previously, a relatively small percentage of green firms offer defined benefit pension retirement plans to their full- and part-time employees. The highest proportion of businesses offering this benefit for full time employees, 33 percent, is found in Region 8 and the lowest, 8.1 percent, in Region 9. Averages in other regions ranged from 12 to 19 percent. For part-time workers, 10.0 percent of green businesses in Region 1 and 8.6 percent in Region 4 provide a defined benefit pension plan. No employers surveyed in Regions 6, 7, 8, and 10 offered this type of retirement plan to part-time employees.

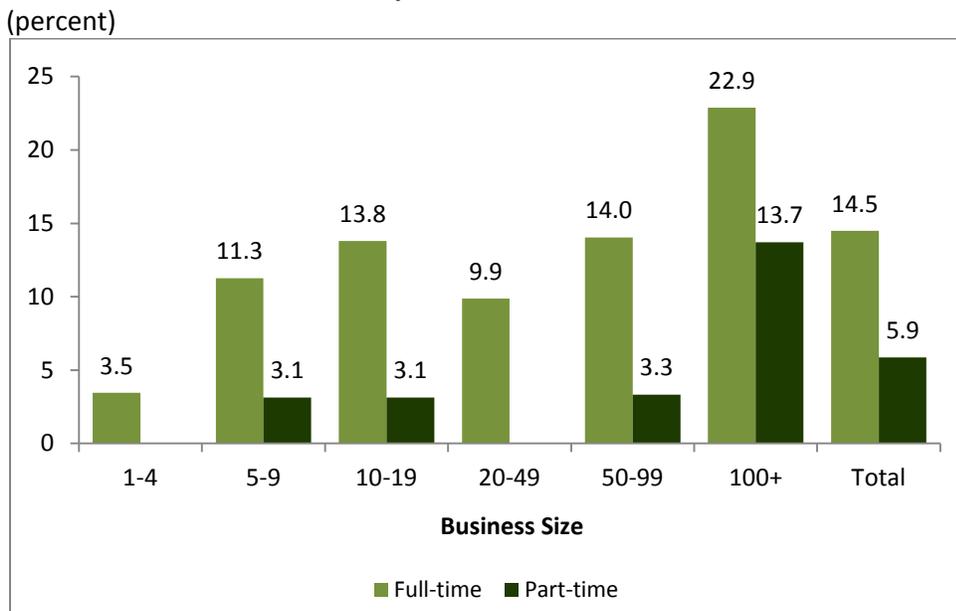
Figure 3-3.4. Green Employers Providing a Defined Benefit Pension Retirement Plan by Region (percent)



Business Size

The largest green businesses, employing 100 or more, are much more likely than smaller firms to offer a defined benefit pension retirement plan, with 23 percent providing this benefit to full-time and 14 percent to part-time employees. Defined benefit pensions are seldom available at very small businesses for full-time workers and not at all for part-time employees. Firms with 20-49 workers are next among businesses unlikely to provide defined benefit pension plans. See Figure 3-3.5 for further details.

Figure 3-3.5. Green Employers Providing a Defined Benefit Pension Retirement Plan by Business Size (percent)



Section 4. Miscellaneous Benefits

4-1 Child Care Benefits

Industry

Relatively few businesses engaged in green activity provide child care services, including on-site child care, reimbursements, vouchers, etc., to their employees. Most of those that do offer child care are in the education and health services fields, with 23.1 percent of green firms in these industries having a child care benefit for full-time workers and 15.2 percent offering it to part-time employees. A modest share of green manufacturing businesses make child care benefits available to full-time employees, as seen in Table 4-1.1.

Table 4-1.1 Green Employers Offering Child Care Benefits by Industry
(percent)

Industry	Full-time	Part-time
Natural Resources & Mining	0.0	0.0
Construction	0.0	0.0
Manufacturing	4.8	0.0
Trade, Transportation, & Utilities	2.4	1.2
Information	n.a.	n.a.
Financial Activities	4.2	0.0
Professional & Business Services	4.3	7.0
Education & Health Services	23.1	15.2
Leisure & Hospitality	6.1	2.8
Other Services	6.1	0.0

Region

Among green activity businesses in the survey, 6.2 percent provide child care benefits to their full-time employees and 3.7 percent offer these benefits to part-time workers. Workers in Region 3 (Tuscaloosa metro) are the most likely to find these benefits, with 15.4 percent of employers offering child care to full-time and 5.3 percent to part-time workers. For full-time employees, Region 6 comes in second at 10 percent. In Region 1, which includes the Florence-Muscle Shoals metro, 6.7 percent of green firms have this benefit available for full-time and 11.8 percent for part-time workers. Table 4-1.2 indicates that only around 6 percent of green employers in regions that include the large metro areas of Huntsville, Birmingham-Hoover, and Mobile provide child care benefits for their full-time employees.

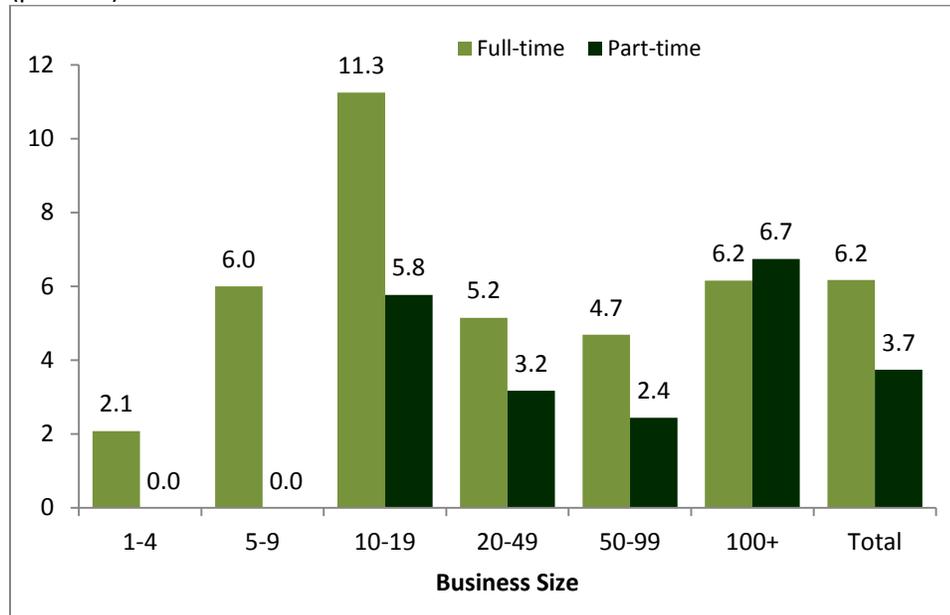
Table 4-1.2 Green Employers Offering Child Care Benefits by Region
(percent)

Region	Full-time	Part-time
1	6.7	11.8
2	6.0	5.8
3	15.4	5.3
4	5.8	2.2
5	4.7	4.0
6	10.0	0.0
7	4.9	0.0
8	0.0	0.0
9	5.9	2.5
10	0.0	0.0
Alabama	6.2	3.7

Business Size

Green activity firms in all size groups offer child care benefits. However, these percentages are generally small, as shown in Figure 4-1.1. For full-time employees, child care benefits are most likely to be available in businesses employing 10 to 19, followed by large firms with 100 or more employees. No green businesses with fewer than 10 employees provide child care to part-time workers.

Figure 4-1.1 Green Employers Offering Child Care Benefits by Business Size
(percent)



4-2 Tuition/Educational Assistance or Reimbursement

Industry

Across all industries, 34.9 percent of green activity employers offer tuition or educational assistance to their full-time employees and 9.7 percent make this assistance available to part-time workers. For full-time employees, almost half of green manufacturers reimburse educational expenses, followed by 42.3 percent of businesses in education and health services that make this benefit available. As Table 4-2.1 shows, green firms in financial activities are the most likely to provide educational assistance for their part-time workers. Natural resources and mining and construction workers are the least likely to be reimbursed for tuition or other educational expenses.

Table 4-2.1 Green Employers Offering Tuition or Educational Assistance by Industry
(percent)

Industry	Full-time	Part-time
Natural Resources & Mining	8.3	0.0
Construction	23.3	8.3
Manufacturing	49.0	2.3
Trade, Transportation, & Utilities	33.1	5.9
Information	n.a.	n.a.
Financial Activities	34.8	26.7
Professional & Business Services	31.9	9.3
Education & Health Services	42.4	19.6
Leisure & Hospitality	22.9	14.7
Other Services	29.0	11.1

Region

Green employers in Region 4, encompassing the Birmingham-Hoover metro, are the most likely to provide tuition or educational assistance to their workers—41.7 percent offer this benefit to full-time and 12.2 percent to part-time employees, as seen in Table 4-2.2. Employees of businesses engaged in green activity in Regions 2 and 3, the Huntsville-Decatur and Tuscaloosa areas, are also more likely than average to be offered tuition or educational assistance. Few if any green employers from Regions 6 and 8 provide these benefits, but the sample size in these regions was small.

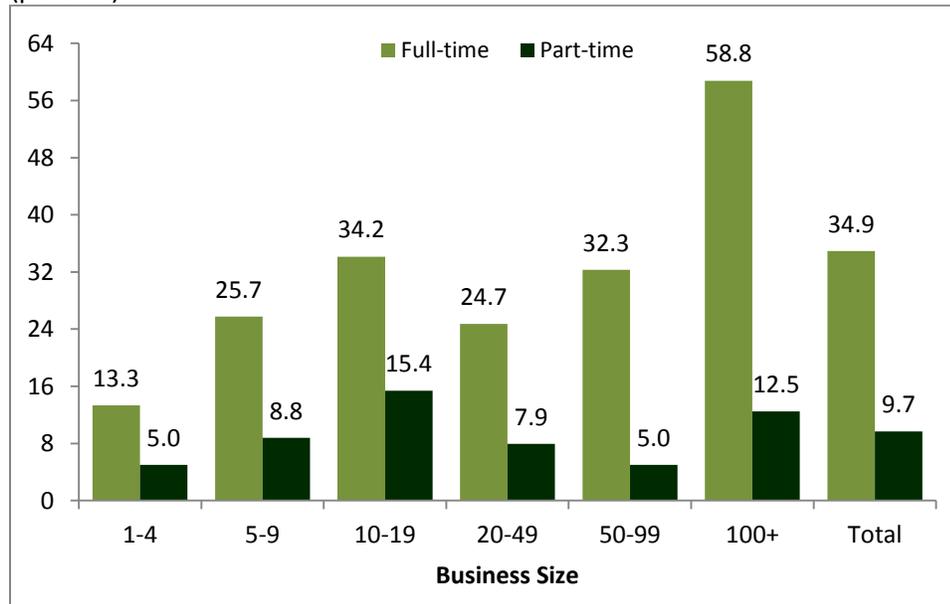
Table 4-2.2 Green Employers Offering Tuition or Educational Assistance by Region
(percent)

Region	Full-time	Part-time
1	20.7	5.9
2	38.2	10.3
3	37.5	11.1
4	41.7	12.2
5	28.6	4.2
6	20.0	0.0
7	34.2	4.4
8	0.0	0.0
9	31.4	12.8
10	29.2	7.7
AL	34.9	9.7

Business Size

Among all businesses engaged in green activity, those employing 100 or more are much more likely to offer tuition or educational assistance, with 58.8 percent providing this benefit to full-time workers and 12.5 percent to part-time employees. Very small firms and green employers with 20 to 49 workers are the least likely to provide tuition and education benefits, as shown in Figure 4-2.1.

Figure 4-2.1 Green Employers Offering Tuition or Educational Assistance by Business Size
(percent)



4-3 Flexible Spending Accounts

Industry

Flexible spending accounts allow employees to set aside part of their paycheck pre-tax to pay qualified medical and child care expenses. Among all green employers surveyed, 32.8 percent offer this benefit to full-time and 10.0 percent to part-time employees. Firms in manufacturing and financial activities are the most likely to provide flexible spending accounts for their full-time workers, with around 46 percent offering this benefit, followed by professional and business services at 40.9 percent. Table 4-3.1 shows that part-time employees in green businesses in financial activities, professional and business services, and education and health services are the most likely to have flexible spending accounts.

Table 4-3.1 Green Employers Offering Flexible Spending Accounts by Industry
(percent)

Industry	Full-time	Part-time
Natural Resources & Mining	0.0	0.0
Construction	11.9	0.0
Manufacturing	46.5	8.9
Trade, Transportation, & Utilities	30.0	7.2
Information	40.0	0.0
Financial Activities	45.8	21.4
Professional & Business Services	40.9	18.2
Education & Health Services	36.9	17.0
Leisure & Hospitality	20.6	5.6
Other Services	15.6	5.9

Region

Green employers in Regions 3 (Tuscaloosa metro) and 4 (Birmingham-Hoover area) most often provide the option of flexible spending accounts to their full-time workers, with at least 41 percent making this available, as Table 4-3.2 shows. They are also in the top three regions for offering flexible spending accounts to part-time employees, behind Region 8, which includes the Auburn-Opelika metro. However, Regions 6 and 8 are much less likely than other regions to have flexible spending accounts offered by their green activity firms.

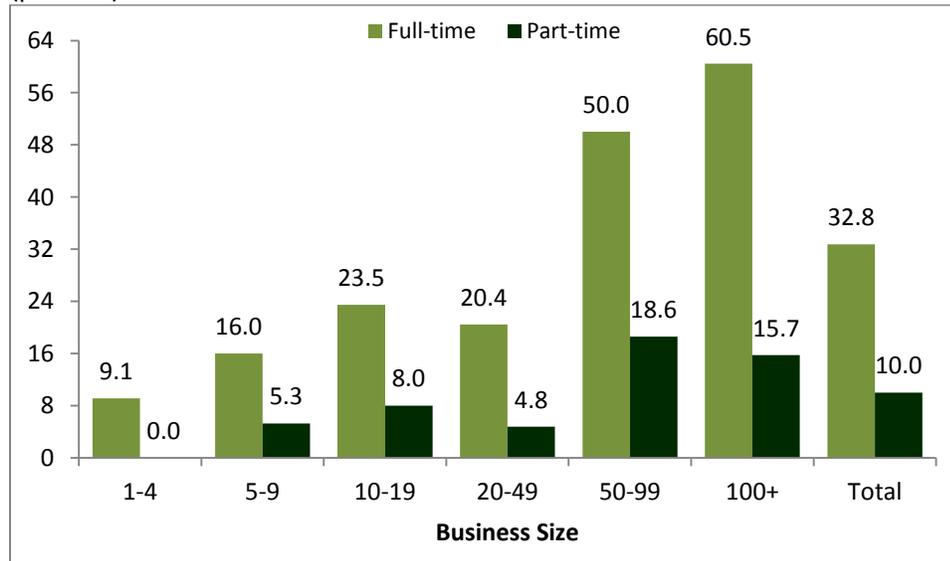
Table 4-3.2 Green Employers Offering Flexible Spending Accounts by Region
(percent)

Region	Full-time	Part-time
1	24.1	11.8
2	37.0	11.5
3	41.0	15.0
4	42.3	14.3
5	23.8	0.0
6	10.0	0.0
7	26.8	8.3
8	11.1	25.0
9	18.0	2.8
10	25.0	0.0
Alabama	32.8	10.0

Business Size

As shown in Figure 4-3.1, green businesses with at least 50 employees are much more likely to offer flexible spending accounts to both their full-time and part-time workers than are smaller firms. Over 60 percent of green activity firms with 100 or more employees provide flexible spending accounts for full-time workers, while 50 percent of businesses employing 50 to 99 do so. Very small businesses surveyed seldom offer flexible spending accounts.

Figure 4-3.1 Green Employers Offering Flexible Spending Accounts by Business Size
(percent)



4-4 Hiring Bonuses or Moving Expenses

Industry

Looking across all industries, 25.9 percent of green employers offer hiring bonuses and/or pay moving expenses for full-time hires, while just 2.9 percent do so for part-time workers. These benefits for full-time employees are most often available from green activity businesses in manufacturing (42.2 percent) and in professional and business services (34.3 percent of firms). The state's green employers in natural resources and mining, construction, and education and health services are the least likely to give hiring bonuses or pay moving expenses, as Table 4-4.1 shows.

Table 4-4.1 Green Employers Offering Hiring Bonuses or Moving Expenses by Industry
(percent)

Industry	Full-time	Part-time
Natural Resources & Mining	9.1	0.0
Construction	11.4	0.0
Manufacturing	42.2	0.0
Trade, Transportation, & Utilities	26.2	1.2
Information	n.a.	n.a.
Financial Activities	16.7	7.7
Professional & Business Services	34.3	7.0
Education & Health Services	13.9	4.3
Leisure & Hospitality	20.6	2.9
Other Services	18.8	5.6

Region

For full-time employees, green businesses completing the benefits survey from Workforce Development Regions 3 (Tuscaloosa area) and 4 (Birmingham-Hoover) were the most likely to offer hiring bonuses or pay moving expenses. Table 4-4.2 indicates that the percentage of green employers in Regions 2 (Huntsville-Decatur) and 7 (Montgomery) providing this benefit are also above average. No respondents from Region 8 and few from Regions 6 and 10 provided hiring bonuses or moving expenses to their full-time workers.

Table 4-4.2 Green Employers Offering Hiring Bonuses or Moving Expenses by Region

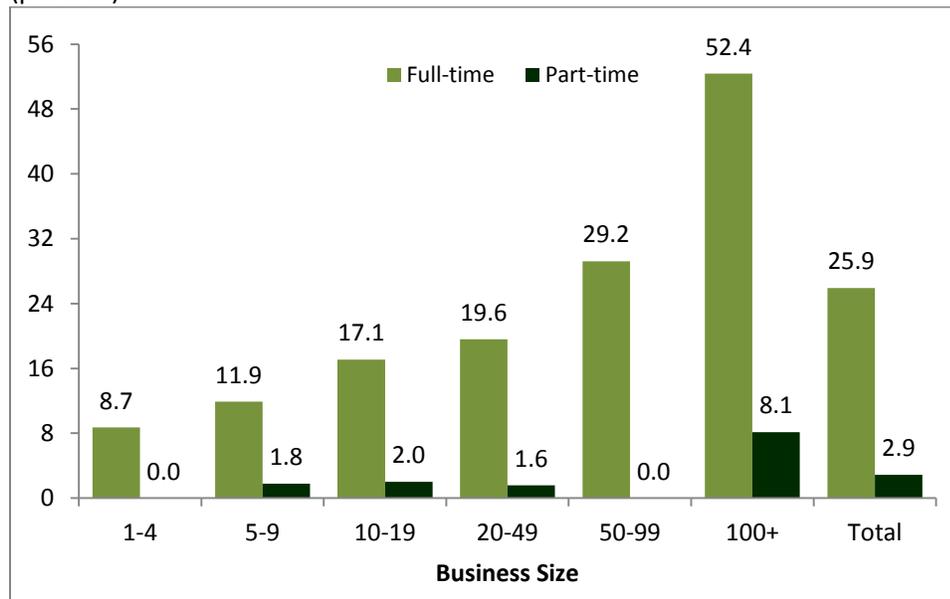
(percent)

Region	Full-time	Part-time
1	17.2	0.0
2	27.6	1.2
3	38.5	0.0
4	30.9	7.8
5	19.5	0.0
6	10.0	0.0
7	26.2	4.4
8	0.0	0.0
9	23.5	2.8
10	8.3	0.0
Alabama	25.9	2.9

Business Size

The percentage of green employers providing hiring bonuses and/or paying moving expenses for their full-time hires rises with increasing business size, as shown in Figure 4-4.1. While just 8.7 percent of businesses with fewer than 5 employees offer this benefit, 29.2 percent of those employing 50 to 99 and 52.4 percent of green businesses with 100 or more workers pay hiring bonuses or moving expenses.

Figure 4-4.1 Green Employers Offering Hiring Bonuses or Moving Expenses by Business Size
(percent)



4-5 Shifts and Shift Differentials

4-5-1 Characteristics of Green Employers Operating on Shifts

Industry

Across all green activity businesses, 33.5 percent have full-time employees working shifts and almost 27 percent have part-time workers on shifts. Firms in the leisure and hospitality sector are most likely to operate on shifts, with over 75 percent of businesses having both full- and part-time employees working shifts. Shifts are also common in manufacturing, where 65.1 percent of green employers have full-time and 38.6 percent have part-time employees on shifts, as Table 4-5-1.1 shows. Financial activities and construction are the least likely to require shift work.

Table 4-5-1.1 Green Employers Operating on Shifts by Industry
(percent)

Industry	Full-time	Part-time
Natural Resources & Mining	27.3	16.7
Construction	6.8	16.7
Manufacturing	65.1	38.6
Trade, Transportation, & Utilities	31.0	23.2
Information	n.a.	n.a.
Financial Activities	8.3	6.7
Professional & Business Services	14.1	9.1
Education & Health Services	24.6	23.4
Leisure & Hospitality	79.4	75.7
Other Services	15.2	22.2

Region

Response rates could affect industry concentrations in the various regions and, hence, the percentages of green employers with employees on shifts. In particular, no firms utilizing shifts responded to the survey from Regions 6 and 8. Among the remaining Workforce Development Regions, shifts are most common in Regions 1 (Florence-Muscle Shoals), 2 (Huntsville-Decatur), and 3 (Tuscaloosa), with over 42 percent of firms having their full-time workers on shifts. Table 4-5-1.2 indicates that the percentage of employers running shifts is lowest in Regions 7 (Montgomery) and 10 (Dothan).

Table 4-5-1.2 Green Employers Operating on Shifts by Region
(percent)

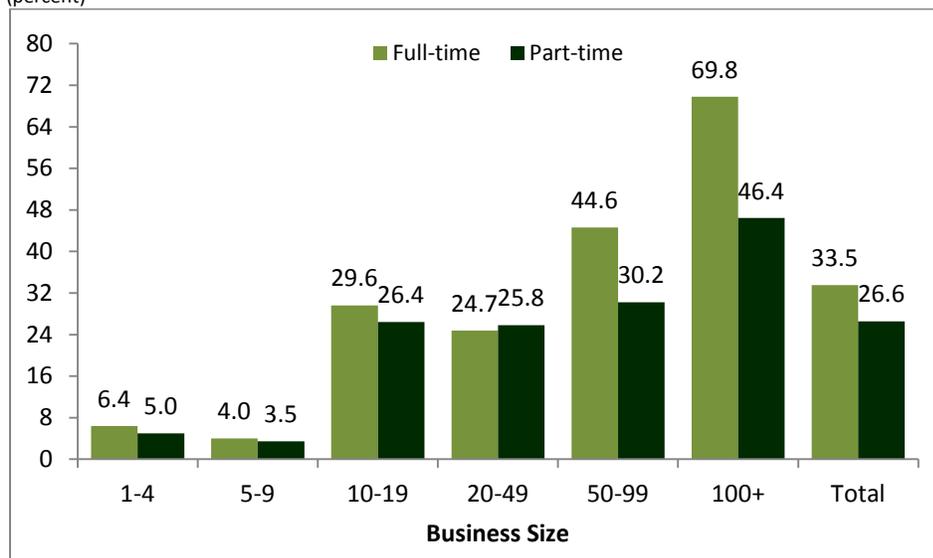
Region	Full-time	Part-time
1	48.3	25.0
2	42.1	32.6
3	42.5	31.6
4	34.5	29.6
5	27.9	16.0
6	n.a.	n.a.
7	19.1	8.7
8	n.a.	n.a.
9	29.4	27.5
10	16.7	28.6
Alabama	33.5	26.6

Business Size

Large green employers are the most likely to operate on shifts, with about 70 percent of these firms having their full-time and over 46 percent their part-time employees working shifts. Almost 45 percent of businesses employing 50 to 99 also run shifts for their full-time employees, as shown in Figure 4-5-1.1. Green activity firms with fewer than 10 employees seldom operate on shifts.

Figure 4-5-1.1 Green Employers Operating on Shifts by Business Size

(percent)



4-5-2 Shift Differentials

Industry

Green employers that indicated they operate on shifts were then asked if shift differentials are offered. Across all businesses running shifts, just 42.9 percent offer differential pay to their full-time workers and 25.6 percent provide differentials to part-time employees. Manufacturers engaged in green activity are the most likely to vary compensation by shift, with 71.2 percent using shift differential pay for full-time and 50 percent for part-time employees. A third of employers in the leisure and hospitality sector provide shift differentials for full-time workers, as Table 4-5-2.1 shows, but other service industries are less likely to vary compensation for employees on shifts.

Table 4-5-2.1 Green Employers Offering Shift Differentials by Industry

(percent)

Industry	Full-time	Part-time
Natural Resources & Mining	50.0	n.a.
Construction	25.0	10.0
Manufacturing	71.2	50.0
Trade, Transportation, & Utilities	37.5	19.4
Information	n.a.	n.a.
Financial Activities	22.2	14.3
Professional & Business Services	24.0	13.6
Education & Health Services	23.8	29.4
Leisure & Hospitality	33.3	3.3
Other Services	25.0	n.a.

Region

Full-time employees working shifts in green businesses are most likely to be paid based on their shift in Region 1 (Florence-Muscle Shoals), where 60 percent of firms running shifts offer a differential. Shift differentials are also provided for full-time workers by at least 50 percent of businesses with shifts in Regions 3 (Tuscaloosa) and 5 (Gadsden, Anniston-Oxford, Talladega), as Table 4-5-2.2 shows. Variation of availability of shift differentials by region is largely tied to industry composition, as this type of compensation is most often provided in more industrialized regions.

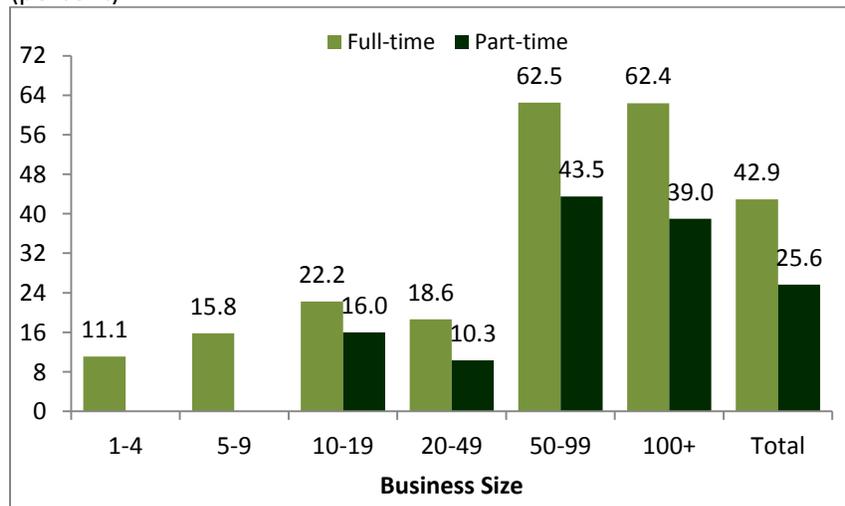
Table 4-5-2.2 Green Employers Offering Shift Differentials by Region
(percent)

Region	Full-time	Part-time
1	60.0	37.5
2	45.1	25.6
3	55.0	37.5
4	42.4	33.3
5	50.0	27.3
6	n.a.	n.a.
7	31.6	9.1
8	n.a.	n.a.
9	37.5	19.1
10	20.0	12.5
Alabama	42.9	25.6

Business Size

Most green firms offering differential pay for shifts have 50 or more employees—in over 62 percent of businesses with 50 to 99 and 100 or more workers, full-time employees on shifts are paid based on their shift, while 39 percent or more of part-time workers receive differential pay. As Figure 4-5-2.1 shows, fewer than a quarter of firms with fewer than 50 employees pay their full-time workers by shift. In the survey sample, no firms with fewer than 10 employees offered shift differentials to part-time workers.

Figure 4-5.2.1 Green Employers Offering Shift Differentials by Business Size
(percent)



Section 5. Cost of Benefits

Businesses completing the *Alabama Employee Benefits Survey* were asked to enter their total expenditures in 2009 for three categories of employee compensation: wages and salaries, insurance, and retirement plans. These data were used to analyze components of compensation for Alabama’s green activity businesses by size of firm, industry, and Workforce Development Region.

Business Size

Table 5.1 shows that wages and salaries tend to decrease as a percentage of total employee compensation as firm size measured by employment increases. That’s because larger businesses are more likely to contribute to insurance benefits and retirement plans for their employees and these two costs amount to a larger share of the total compensation package. For instance, few of the green activity businesses in the survey with less than five employees pay into a retirement plan, while over 3 percent of total compensation at firms with 50 or more workers goes to pay for retirement benefits. Insurance costs comprise a larger share of compensation at all businesses than do retirement plan costs. Contrary to the trend by size, however, green firms with 20 to 49 employees are most impacted by costs of both insurance and retirement plans, according to our study, with the two expenses amounting to 14.2 percent of total compensation.

Table 5.1. Compensation Costs by Size of Green Employer
(percent of total compensation)

Size of Business	Number of Businesses	Wages and Salaries	Insurance	Retirement Plans
1-4	50	95.0	4.7	0.3
5-9	103	95.9	2.9	1.1
10-19	83	90.4	7.2	2.3
20-49	98	85.8	10.3	3.9
50-99	65	90.6	6.1	3.2
100+	131	88.2	8.7	3.1
Alabama	530	89.9	7.4	2.7

Industry

Availability of and contributions by employers to both insurance and retirement plans vary widely by industry as seen in Table 5.2. The largest employer shares of total compensation for employee insurance benefits are in professional and business services and manufacturing, while green businesses in the financial activities and education and health services sectors devote the most resources to funding retirement plans. With a large number of part-time workers, green activity firms in the leisure and hospitality industry spend just 2.3 percent of employee compensation on benefits. At the other end of the spectrum, professional and business services firms spend 17.1 percent of total compensation funding insurance and retirement plans.

Table 5.2. Compensation Costs by Industry for Green Employers
(percent of total compensation)

Industry	Number of Businesses	Wages and Salaries	Insurance	Retirement Plans
Natural Resources and Mining	12	90.7	9.3	0.0
Construction	44	94.0	4.3	1.7
Manufacturing	104	86.7	11.0	2.2
Trade, Transportation, and Utilities	130	87.5	8.7	3.7
Information	5	n.a.	n.a.	n.a.
Financial Activities	24	83.8	9.1	7.1
Professional and Business Services	74	82.8	14.7	2.4
Education and Health Services	67	87.1	7.6	5.3
Leisure and Hospitality	37	97.6	1.9	0.4
Other Services	33	94.7	5.1	0.3
Total	530	88.2	8.7	3.1

Region

The share of employee compensation spent on wages and salaries amounted to 100 percent of the total for the small number of green activity businesses completing the benefits survey in Workforce Development Region 8, which includes the Auburn-Opelika metro and Russell County in the Columbus, GA-AL metro area. But Table 5.3 shows that just two-thirds of compensation in Region 10 came from wages and salaries, with a sixth from each of employer-paid insurance premiums and retirement plan benefits. Among all 530 green activity firms, 88.2 percent of total compensation was in the form of wages and salaries and 11.8 percent went to insurance and retirement plan benefits. The benefits share was higher than this average in Regions 1, 3, 4, and 9.

Table 5.3. Compensation Costs by Region for Green Employers
(percent of total compensation)

Region	Number of Businesses	Wages and Salaries	Insurance	Retirement Plans
1	30	82.8	13.3	3.9
2	137	91.1	7.0	2.0
3	40	86.6	10.2	3.2
4	140	84.3	12.6	3.1
5	43	91.7	5.8	2.5
6	10	96.4	2.2	1.5
7	43	94.8	4.6	0.6
8	9	100.0	0.0	0.0
9	53	85.7	8.6	5.7
10	25	66.7	16.7	16.7
Total	530	88.2	8.7	3.1

Section 6: Benefits at Green Employers Compared to All Employers

Looking across all categories, Alabama employers who produce green products or services or engage in daily business practices that contribute to the green economy are more likely to provide benefits to their employees. A portion of this difference could be due to the distribution of firms in each group by industry—green businesses are more likely than all businesses to be in the manufacturing sector and to have below-average representation from education and health services, but they are also less likely to work in financial activities and more often in the leisure and hospitality industry. Green firms also tend to be larger, with 37.0 percent employing 50 or more, while just 29.0 percent of all businesses in the survey had at least 50 employees.

The benefits comparison below is not controlled for firm size or industry. Rather the analysis looks at whether participants in the green economy as a group are providing comparable or better employee benefits than the business community as a whole. Section 6-5 does indicate, however, that for most industries and business sizes, green employers are devoting a larger share of total compensation to pay for benefits than are all employers.

6-1 Insurance

Across every category of insurance benefit surveyed—medical, dental, vision, life, long-term care, and short- and long-term disability, green employers are more likely than all employers to offer coverage to their full-time workers, as shown in Table 6-1.1. With the exception of long-term care, the same holds true for part-time employees. The difference in share providing benefits between green and all employers is around 10 percentage points for both life and long-term disability insurance.

Table 6-1.1 Insurance Benefits at Alabama Green Employers Compared to All Employers
(percent of employers offering coverage)

Type of Insurance	Green Employers		All Employers	
	Full-time	Part-time	Full-time	Part-time
Medical	84.3	10.9	76.9	8.9
Dental	71.7	7.9	64.3	7.1
Vision	43.2	5.3	34.3	4.9
Life	64.7	8.3	55.0	7.4
Long-term Care	24.3	3.0	19.8	3.1
Short-term Disability	49.1	6.0	41.3	5.6
Long-term Disability	49.6	5.1	39.4	4.8

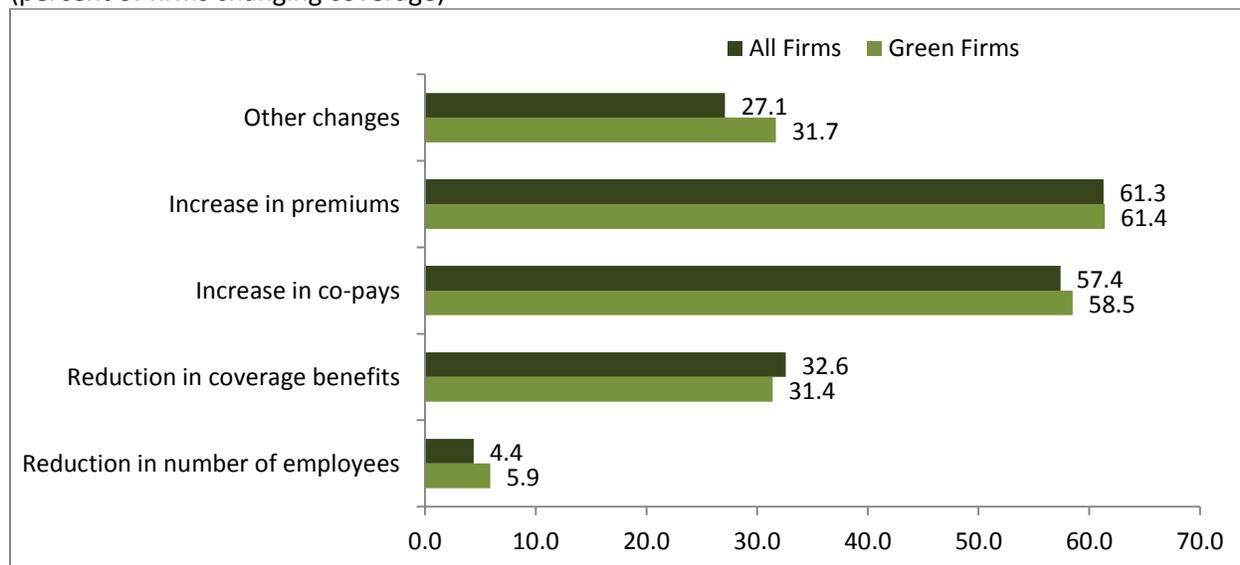
Looking at medical insurance, 84.3 percent of green employers offer this benefit for full-time workers, compared to 76.9 percent of all Alabama firms. However, the green firms are less likely to pay the entire premium, with 24.5 percent of green and 28.1 percent of all firms responding that they pay 100 percent of medical insurance premiums. More often, green employers share premium costs with the employee; for full-time employees, this is the case for 70.9 percent of green firms compared to 66.5

percent of all businesses. For medical insurance premiums for spouses and dependents, green firms are also more likely to share the cost with the employee (62.6 percent compared to 49.8 percent), but they less often require the employee to shoulder the entire cost (29.0 percent versus 45.9 percent).

While 71.7 percent of green activity businesses offer dental insurance coverage to full-time employees, a lesser 64.3 percent of all businesses provide dental benefits. As for medical coverage, green employers are more likely to share the cost of dental coverage with the employee (for full-time workers, 51.6 percent compared to 41.7 percent for all firms), but also less likely to have their full-time employees pay the entire costs of premiums (24.6 percent versus 53.3 percent).

With rising healthcare costs, many employers have been making changes in the coverage they offer. Among survey respondents, 43.8 percent of green businesses indicated that they made a change due to increasing costs in 2009, while just 35.0 percent of all businesses did so. The types of changes in coverage made by the two groups were generally similar, although green employers were more like to reduce their number of employees provided coverage, as shown in Figure 6-1.1.

Figure 6-1.1 Type of Change in Healthcare Coverage Due to Increasing Costs, 2009
(percent of firms changing coverage)



6-2 Paid Leave

The 35.8 percent of green employers offering consolidated Paid Time Off (PTO) to their full-time workers compares to 32.4 percent of all employers in the benefits survey that offer PTO. Leave at green CTO employers averages 11 days for full-time employees, compared to 12 days across all firms. However, among employers offering leave time outside of a consolidated PTO plan, vacation, sick leave, and holiday time is more often available to employees of green businesses than to employees at all Alabama businesses, as Table 6-2.1 shows. Where 69.5 percent of all employers offer paid vacation leave, 74.6 percent of green businesses provide that benefit. Green employers offer full-time workers an average of 12 paid vacation days, 13 paid sick days, and 8 holiday days annually, compared to 11, 10, and 7, respectively, among all employers.

Table 6-2.1 Paid Leave at Alabama Green Employers Compared to All Employers
(percent of employers providing paid leave)

Type of Leave	Green Employers		All Employers	
	Full-time	Part-time	Full-time	Part-time
Consolidated Paid Time Off	35.8	9.3	32.4	9.5
Paid Vacation Leave	74.6	22.0	69.5	18.0
Paid Sick Leave	46.0	12.9	43.7	10.8
Paid Holidays	86.1	33.0	79.7	28.1

6-3 Retirement Benefits

Employers engaged in green economic activity or practices are somewhat more likely than all Alabama businesses to provide a retirement plan to their full-time employees—59.3 percent of green businesses offer retirement benefits compared to 56.0 percent of all companies. For part-time workers, however, these firms are slightly less likely to make a retirement plan available, as Table 6-3.1 shows. Among green activity businesses responding to questions on the type of plan offered, 77.3 percent have a defined contribution plan for their full-time employees and just 14.5 percent offer a defined benefit pension plan. These compare to percentages of 68.5 and 13.0 percent, respectively, for all employers in the survey.

Table 6-3.1 Retirement Benefits at Alabama Green Employers Compared to All Employers
(percent of employers offering plan)

Type of Plan	Green Employers		All Employers	
	Full-time	Part-time	Full-time	Part-time
Any Retirement Plan	59.3	22.6	56.0	24.0
Defined Contribution Plan	77.3	36.9	68.5	32.4
Defined Benefit Pension	14.5	5.9	13.0	7.0

Green firms with a defined contribution retirement plan are more likely to share costs of the plan with their full-time employees—78.6 percent of defined contribution plans are paid jointly compared to 75.0 percent for all firms. In contrast, among all companies providing a defined benefit pension, half of green businesses pay the total cost compared to 42.5 percent of all employers.

6-4 Miscellaneous Benefits

The percentage of green employer firms offering each benefit in the Miscellaneous category is higher than the share of all Alabama employers providing that benefit. As Table 6-4.1 shows, this is true for both full-time and part-time employees. The largest percentage differentials are for tuition or educational assistance, which is offered by 34.9 percent of green firms compared to 23.9 percent of all businesses and for differential pay for employees on shifts. Pay varies by shift at 42.9 percent of green activity businesses running shifts, while just 29 percent of all firms offer shift differentials.

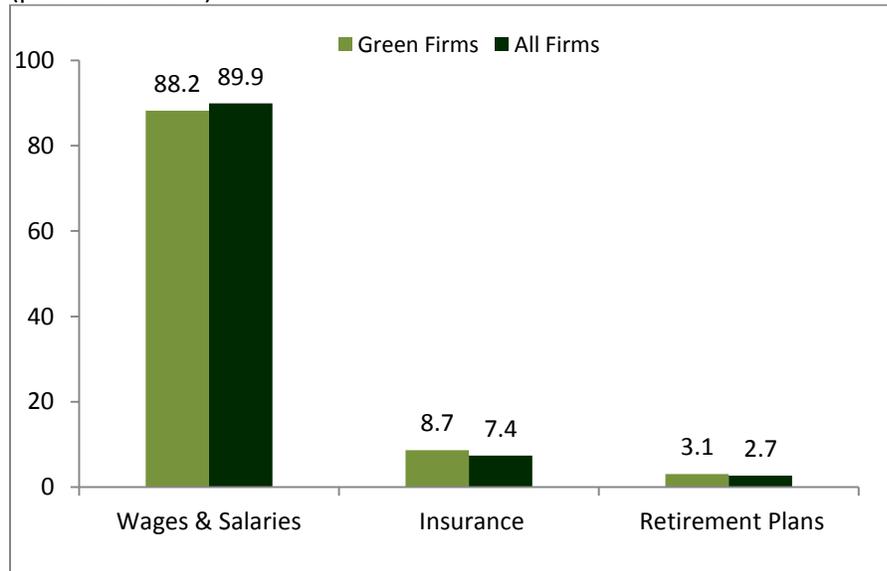
Table 6-4.1 Miscellaneous Benefits at Alabama Green Employers Compared to All Employers
(percent of employers offering benefit)

Type of Insurance	Green Employers		All Employers	
	Full-time	Part-time	Full-time	Part-time
Child Care	6.2	3.7	3.9	2.9
Tuition/Educational Assistance	34.9	9.7	23.9	8.1
Flexible Spending Accounts	32.8	10.0	25.3	8.8
Hiring Bonuses/Moving Expenses	25.9	2.9	16.3	2.2
Shift Differentials				
Operate on Shifts	33.5	26.6	25.2	23.8
If Shifts, Offer Differential	42.9	25.6	29.0	19.4

6-5 Cost of Benefits

As a group, Alabama businesses that incorporate some type of green activity into their daily practices and/or produce green products or services devote a larger percentage of their total compensation to paying for employee benefits than the percentage at all firms. While the state’s businesses spend an average of 7.4 percent of total resources on insurance, firms engaged in the green economy average 8.7 percent of the total, as Figure 6-5.1 shows. Green employers also devote a larger share of compensation to retirement plan contributions—3.1 percent versus 2.7 percent for all firms.

Figure 6-5.1 Expenditures for Employee Compensation by Category
Green Employers Compared to All Employers
(percent of total)



Higher percentages of compensation going to pay for benefits among green businesses compared to all firms holds true across most industries and is most pronounced in financial activities, professional and business services, and natural resources and mining. However, as indicated in Table 6-5.1, green employers in the leisure and hospitality sector are devoting smaller shares of compensation to paying for insurance and retirement plans than all employers.

Table 6-5.1 Compensation Component Costs by Industry for Green Employers Compared to All Employers

(component as percent of total compensation)

Industry	Wages and Salaries		Insurance		Retirement Plans	
	Green	All	Green	All	Green	All
Natural Resources & Mining	90.7	94.9	9.3	5.1	0.0	0.0
Construction	94.0	94.1	4.3	5.0	1.7	0.9
Manufacturing	86.7	87.6	11.0	10.4	2.2	1.9
Trade, Transportation, & Utilities	87.5	87.7	8.7	8.9	3.7	3.4
Information	n.a.	92.0	n.a.	6.5	n.a.	1.6
Financial Activities	83.8	88.8	9.1	6.7	7.1	4.6
Professional & Business Services	82.8	90.2	14.7	7.5	2.4	2.2
Education & Health Services	87.1	89.7	7.6	6.4	5.3	3.9
Leisure & Hospitality	97.6	94.5	1.9	4.6	0.4	0.9
Other Services	94.7	94.4	5.1	4.0	0.3	1.6

The widest disparities in the composition of compensation between green and non-green firms are found in comparisons by business size seen in Table 6-5.2. For all categories of businesses with 10 or more employees, except the 50 to 99 employee group, green employers expend a larger percentage of total compensation on benefits. In particular, among businesses with at least 100 workers, the 16.1 percent share going to insurance is well above the 12.8 percent share at all large firms.

Table 6-5.2 Compensation Component Costs by Business Size for Green Employers Compared to All Employers

(component as percent of total compensation)

Size of Business	Wages and Salaries		Insurance		Retirement Plans	
	Green	All	Green	All	Green	All
1-4	95.0	94.4	4.7	4.6	0.3	0.9
5-9	95.9	91.2	2.9	6.5	1.1	2.3
10-19	90.4	93.7	7.2	4.9	2.3	1.4
20-49	85.8	87.5	10.3	8.0	3.9	4.5
50-99	90.6	89.6	6.1	7.8	3.2	2.6
100+	78.2	83.2	16.1	12.8	5.7	4.0